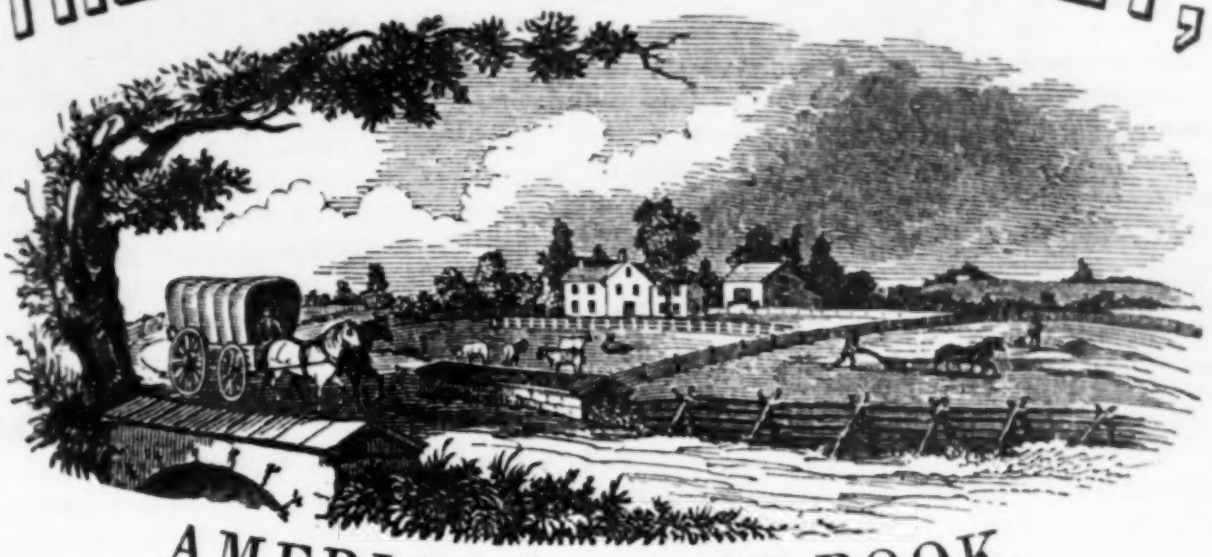
THE FARMERS' CABINET,

AND



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AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

Perfect Agriculture is the true foundation of all trade and industry.—LIEBIG.

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Agriculture and the Corn-Law:

SHOWING THE INJURIOUS EFFECTS OF THE CORN-LAW UPON TENANT FARMERS AND FARM-LABOURERS.

PRIZE ESSAY, BY W. R. GREG.

Issued by the National Anti-Corn-Law League, Newall's Buildings, Manchester, England.

THE effect of our restrictive corn-laws in hampering the commerce, depressing the manufactures, and famishing the people of England, has been long known and amply discussed. But that these laws are equally injurious to those classes for whose especial benefit they profess to be enacted—viz: farmers and farm-labourers—has not been so clearly made out, and is not so generally believed. The fact that any system of legislation should have the effect of diminishing the subsistence and fettering the trade of a great nation, ought, no doubt, to be sufficient to procure its immediate alteration. But unhappily it is not so; and in this country, as long as any numerous and powerful body of men believe, however erroneously, that their own interests are bound up in the continuance of unjust and partial enactments, so long will those enactments be maintained; or, if abolished, will be abolished only at the cost or the peril of a severe civil struggle.

The following pages, therefore, will be devoted to an examination of the real operation of our corn-laws on the welfare of farm-tenants and farm-labourers;—and if it shall appear, upon a dispassionate inquiry, that these classes have been, and are, *not gainers, but sufferers*, by these laws, we may hope that they will speedily join their their commercial and manufacturing fellow-citizens, in demanding their total abrogation. And first, as to their effect upon FARM-TENANTS.

1. At the very outset of the inquiry, it cannot fail to strike us as remarkable, *that the very classes, professedly to promote whose interests the principles of equal justice and commercial freedom have been trampled under foot, are, generally speaking*,—in the majority of cases, and in the majority of years,—*about the most depressed and unprosperous in the community.* If the system of legislative protection which has been so uniformly and unscrupulously followed, were a sound one, the farmers ought to be the most thriving and fortunate of men; since for centuries back, but particularly for the last seven and twenty years, their prosperity has been professedly

the especial care of Parliament; the agricultural interest has been the one to which all others have been at all times unsparingly sacrificed; and, if their measures have not answered,—if their end has not been obtained, it can only have been either because their object was not attainable, or because their measures were unwisely adapted to their end.

Now, what is the actual state of the case? None can answer this question so well as the farmers themselves. Since 1815, they have had almost every thing in their favour. Their customers, the consumers of agricultural produce, have multiplied with enormous rapidity; the wealth of these customers, and their consequent power of purchase, have increased with the extension of trade in a still more rapid ratio;—the manufacturing and engineering enterprise of the country has absorbed immense numbers of labourers, who must otherwise have remained a heavy burden on the land;—of late the remodelling of the poor-laws has relieved them from a pressing and severe embarrassment;—and taxes which bore exclusively upon the agricultural interest, have been repealed to the extent of a million yearly.* Yet what has been the result? Is it not notorious, that, during this period, farmers have been in a state of frequent and deplorable depression? During this period, have there not been *three* several corn-laws passed for their relief and encouragement alone? And, during this period, have there not been *five* parliamentary committees† sitting, to prove the existence, and inquire into the causes of agricultural distress?

It is clear, then, that the object of our legislators has not been attained;—not, we believe, because it is unattainable, but because the measures pursued have been unfitted to their aim. We are convinced—and if we were not, the history of our corn-legislation would go far to produce the conviction—that in public as in private matters, selfishness, if too gross, generally defeats its own purposes; that unjust laws are always unwise ones; that the prosperity of any branch of industry can have no frailer basis, no more precarious tenure, than protective enactments; that the elevation of one class of the community cannot be permanently procured by the depression of the rest; and that an end which can only be obtained by oppression and injustice, carries its own condemnation on its face.

The corn-laws, then, so far from having ensured success to the farmer, have not even secured him from frequent and severe distress. Thus far, all men will agree with us. Let us now inquire whether this distress may not be, in a great measure, traced to the operation of these very laws.

2. The case may be thus briefly stated: The existing corn-laws profess to secure a certain price to the farmer for his wheat. On this price the landlords—the authors of these enactments—calculate and fix their rents; and on this price the farmers make *their* calculations, and contract to pay those rents. ***But it turns out that the corn-laws do not ensure this price.*** The rents have been adjusted on a fallacious supposition: the two contracting parties, therefore, cannot both be satisfied, and the weakest goes to the wall. The landlord exacts his rent, and the farmer is ruined. We appeal to the farmers themselves, whether this is not the true process in five cases out of six, in which they have been unfortunate.

The avowed object of all the corn-laws that have ever been passed, has been to fix and secure a price which would remunerate the grower; and the agriculturists generally, having a most religious conviction of the omnipotence of Parliament, have naturally concluded that the avowed object of any law would be effected by that law. The avowed purpose of the law of 1815, was to fix the price of wheat at 80*s.* a quarter.‡

* The following table is taken from Parliamentary returns, and the details may be found in the Companion to the Newspaper for 1836, p. 232:—

Years in which the reduction was made.	Agricultural Taxes repealed or reduced in that year.	Years since elapsed.	Total Saving to Farmers by the reduction up to 1842.
	£		£
1816	281,695	26	7,324,070
1819	3,868	23	88,964
1822	470,108	20	9,402,160
1823	52,792	19	1,003,048
1824	6,876	18	123,768
1825	49,659	17	844,203
1832	8,710	10	87,100
1833	10,110	9	90,900
1834	102,000	8	816,000
Total	£965,818		£19,780,213

† In 1816, 1821, 1822, 1833, 1836.

‡ Eight bushels.

The language of the landed legislature was uniform upon this point. They declared that no lower price could be endured by the farmers; they told the farmers that such a price should be secured to them by law; and they arranged their rents accordingly. What has been the consequence? *In only two years* since that period has the annual average reached that price;* and those two were years of scarcity. The farmers who had contracted to pay rents, *which only a uniform price of 80s. would enable them to pay*, were, of course, impoverished or ruined.

In 1822, the average had fallen to 43*s.* 3*d.* and the deluded farmers were clamorous in their complaints. It was then declared, that the price of 70*s.* a quarter must be ensured, in order to induce the farmer to keep a sufficient breadth of land under the plough; and a new corn-law was passed to procure the desired result. Again the farmers were deceived, and lulled into fancied security. Again rents were readjusted on the new assumption of a permanent average of 70*s.* *Yet in only one year† since that period*, and that one a year of scarcity, *has the price reached this point.* The rents, however, had to be paid. The landlord whistled, and the farmer paid the piper.

For some years subsequent to 1822, every one was dissatisfied. The consumers of corn thought they paid too much, and the growers of corn thought they received too little. Again in 1828, a deliberate attempt was made to secure prices at once high and steady;—such prices as would enable landlords to exact extreme rents, and farmers to pay them. *Sixty-four shillings* was now declared to be the remunerating price; and rents were calculated and settled on this basis. *Yet in only seven years out of the subsequent thirteen, has this average been reached;*‡ and of those seven, five have been years of deficient harvests. And at least four years out of the thirteen, have been years of severe agricultural distress.

In the spring of the present year, a new law was passed, in the hope of fixing 56*s.* as the minimum price of wheat. Yet before the harvest had been fully reaped, and before any wheat could be thrashed out and brought to market,—viz., by September 10th,—*the average weekly return had fallen to* 51*s.* 6*d.*; and by November 5th, it had dropped to 48*s.* 7*d.* Each successive corn-law has in fact been a new and cruel deception to the unhappy farmer; yet to each has he looked with renewed confidence for his relief:

> Cassandra's fate reversed is theirs;
> She, true, no faith could gain;
> They every passing hour deceive,
> Yet are believed again.

Our advice to him is to trust no more to such delusive protectors,—to lean no more upon such broken reeds; but after the experience he has had, to feel convinced that whatever prospects may in future be held out to him from the same quarter, will be as faithless as the past have been:

> But do not thou
> The tale believe;
> They're sisters all,
> And all deceive.

The *first* evil, then, which the corn-laws have inflicted upon the farmer, has been this: *they have induced him to contract to pay rents which*—except in years of scarcity—*the price of wheat will not enable him to pay.*

3. The purpose of our restrictive corn-laws is to secure high prices in this country, by protecting the home grower against the competition of foreign produce. And by dint of looking always at the *intention*, and never at the *operation*, of legislative measures, a great number of our farmers have come to believe, that low prices are the effect of foreign competition, and that high prices are the consequence of that competition being shut out. Now, how stands the fact? Why, that it is impossible to point to a single year of low prices, in which there was any perceptible import of foreign produce; or to a single year of great foreign importation, which was not also a year of high prices. The years 1834, 1835, and 1836, were years of low prices, and of great distress and discontent among farmers, the average of wheat being under 45*s.* a quarter; yet the import of foreign wheat was only 122,175 quarters. The years 1838, 1839, and 1840, were years of high prices, and comparatively of farming prosperity, the average of wheat being 67*s.* 2*d.*, yet in those years we imported the enormous quantity of 7,858,500 quarters. Of this we say nothing more at present than that it undoubtedly establishes the fact, *that low prices of wheat in England are not, and have never been, the effect of foreign competition.* For five months, at the close of 1835, and at the commencement of 1836, the price of wheat ranged under 36*s.* a quarter, at which price no foreign wheat could have been imported from any country in the world, even had the corn-trade been perfectly free, instead of being burdened as it was with a duty of 50*s.* a quarter. And

* In 1817, 1818. † 1839. ‡ 1829-30-31-38-39-40-41.

in 1839, in spite of an importation of 2,681,400 quarters, prices never ranged so low as 66*s*., and averaged above 70*s*. The fact beyond all question is this,—and it should be immoveably rooted in the understanding of every farmer,—*that low prices are owing to abundant harvests, and not to the admission of foreign corn; and that high prices are owing to defective harvests, and not to the exclusion of foreign corn;—since in the former case it is never admitted, and in the latter case it is never excluded.*

There is one case, and one case only, in which this rule will not altogether hold good. There is one case, and one case only, in which harvests of extreme plenty will *not* bring prices of extreme depression; and that is, where the prosperity of trade, and the thriving condition of the whole community, enable the poor to live better and to eat more, and the rich to add to the number of their servants and their horses; and thus to increase the consumption till it keeps pace with the increased production. There is one case, and one case only, in which scanty harvests will not ensure to the farmers prices extravagantly high;—and that is, where the distress of trade and the impoverishment of all classes have produced a diminution in the demand for food equivalent to the diminution in its supply. Had the country been flourishing, and the people been in easy circumstances during the last two years, good wheat would have reached 100*s*. instead of 80*s*. Low prices may be produced by two causes; either by excess of production, or by diminished power of purchase on the part of the consumer. High prices may be produced by two causes; either by a deficient supply, or by a brisk and vigorous demand, and it is evident that they will be most profitable to the farmer when produced by the latter cause. Under the present system, high prices are only produced by deficient crops; so that when the farmer obtains the highest price, *then he has the least to sell. If he is ever to profit equally by good harvests and by bad ones, it can only be by the community, who constitute his customers, being in a condition to buy largely in the former case, and to pay dearly in the latter.* If large crops and high prices are ever to go together, it can only be when manufactures are profitable, when industry is well remunerated, when all the people are well off. In the production of this general prosperity, then, the farmer is as deeply and directly interested, as the merchant, the tradesman, or the labourer. *Yet to this general prosperity the corn-laws are notoriously the greatest obstacle.* By the concurring evidence of the ablest men in every department; of practical merchants, of theoretical economists, of celebrated statesmen; the corn-laws restrict our commerce, depress our trade, deprive our people of employment, and derange our friendly relations with foreign powers.

The *second* great mischief, then, which the corn-laws inflict upon the farmer, is *that they spoil his market, by impoverishing his customers.*

4. We presume that no doubt can exist in the mind of any one, that the *steadier* prices can be made, the better for the producer, as well as for the consumer.* A trade in which the fluctuations are excessive, partakes of the nature of gambling; and a gambling trade is in the long run always a losing one, and generally a ruinous one. The uncertainty which pervades prices, prevents any thing like safe estimates, or accurate calculations. The farmer being wholly unable to foresee whether he shall obtain 40*s*. or 80*s*. for his wheat, knows neither what rent he can afford to pay, nor in what style he can afford to live. If the price of corn were fixed, he would know pretty exactly what he had to expect, would be able to lay out his expenses beforehand, and to calculate beforehand on a certain, though it might be a moderate, amount of profit. This degree of uniformity, we know, is not attainable; but the nearer we can approach to it, the more desirable will become the condition of the farmer. Now nothing can be more certain than that our corn-laws have increased fluctuations of price—*except that they were intended to prevent them.* One of the chief pleas for the perpetual legislative peddling on this subject has been, the necessity of preventing excessive variations in the price of so important an article as food. The far-famed sliding-scale is the result of this alleged necessity; the offspring of previous variations; "the fruitful parent of a thousand more." It was a patent invention to

* "Fluctuations of price, whether they arise from alteration in the value of money, or from changes in the corn-laws, cannot fail to produce evils in every branch of rural economy, which independently of these disturbing causes, must ever remain exposed to grievous vicissitudes from the uncertainty of seasons. These artificial fluctuations, however, only aggravate the natural evil: they render the income of the landlord precarious, *the fixed rent of the farmer a hazardous speculation*, and the wages of the labourer an uncertain remuneration. . . . *Steadiness of price*, which is conducive to settled habits, and forms the basis of all fixed engagements, *is the primary object never again to be overlooked.*"—Report of committee of House of Commons, 1833.

produce uniformity of price. Yet the annexed table* will show how completely this, as well as all previous enactments, has failed in effecting even an approximation to its object. And Mr. Tooke, Sir Robert Peel's favourite authority, declares—and we doubt not, with perfect correctness—that, under the sliding-scale, prices *must* fluctuate *at least* from 36*s.* to 73*s.* a quarter, or more than 100 per cent.†

Here, then, we have three remarkable facts. *First*, we have a parliamentary declaration, that steadiness of price is the primary object; which must never be lost sight of, and which is perfectly essential to the welfare of the landlord, the farmer, and the labourer. *Secondly*, we have a law passed for the purpose of procuring this steadiness, which nevertheless has not prevented the most excessive fluctuations. And, *thirdly*, we have it shown on the first authority, that this very law does, and *must*, aggravate these very fluctuations.‡ Surely a law passed with a definite object, and producing the exact opposite of that object, needs no further condemnation.

Moreover, it is perfectly evident that steadiness of price is at least as important to the consumer as to the grower of corn. The grower, if he be a man of capital, may to a certain extent, set a high priced year against a low priced year, and so make a decent average. But the poor bread-eater cannot do this. He cannot lay in a stock of flour at 36*s.*, and keep it by him to consume when the price is 73*s.* He eats what he wants in the low priced year; and when the high priced year comes, he lives upon something else, or eats one half the quantity. Had the price been stationary at 50*s.*, he would have been to the farmer a regular customer for a regular quantity. But as it is, he is a customer at 36*s.*, and he ceases to be a customer at 73*s.* This, therefore, brings us to the important principle—*that the country could afford to pay the farmer a better average price, if prices were steady than if they are fluctuating.* What we complain of is, not so much that wheat should average 50*s.* a quarter, as that it should ever reach 80*s.*

The *third* great mischief, then, which the corn-law inflicts upon the farmer is this:—by aggravating fluctuations, it upsets all his calculations, and *prevents the country from paying him as high an average, as with steady prices it would be able to afford.*§

[To be concluded in next No.]

*

Year in which the Corn Law was passed.	Lowest price of Wheat under this Law.	Highest Price under this Law.	Fluctuation under this Law. per Cent.
	s. *d.*	*s.* *d.*	
1670	35 6	64 0	80
1689	23 0	81 0	252
1773	35 7	59 0	67
1791	41 0	156 0	280
1804	49 6	155 0	213
1815	38 1	112 7	196
1822	40 0	69 0	72
1828	36 0	79 0	119

† Tooke on Prices, III. pp. 35, 38.

‡ Under a fixed duty or free trade, corn would come in just as it was wanted; the supply would meet the demand, and be proportionate to it, both in time and in amount. Under the sliding scale the price is rapidly and inordinately raised by the artificial withholding of the supply, till the lowest duty is attained, when it is as rapidly depressed by the sudden liberation of the whole quantity in bond.

§ We apprehend that the farmers are very much deceived as to the actual average prices of wheat. The *apparent* average from 1829–41, as taken from the weekly returns, was 58*s.* 9*d.* a quarter; *but, as by far the greatest quantities are always sold in the low priced years*, and generally *in the lowest priced weeks of those years*, the real average paid to the farmers will be much lower; probably about 53*s.* On examining the quantity of wheat sold in the 150 towns from which returns were made to the corn inspectors, we find that in the *three dear years*, 1829–30–31, when the average price was 65*s.* 7*d.* the quantity sold reached only 8,515,000 quarters, while in the *three cheap years*, 1834–5–6, when the price had fallen to 46*s.* 2*d.*, the quantity sold reached 11,286,000 quarters. And in 1839–40–41, when the price had again risen to 67*s.* 1*d.* the quantity sold, notwithstanding a great increase of population, had fallen off to 10,938,000 quarters. In 1838, at 64*s.* 7*d.* 4,064,000 quarters were sold. In 1839, *the price had risen to* 70*s.* 8*d.*, *and only* 3,174,000 quarters *were sold.* The same peculiarity appears if we compare different parts of the same year. In the two highest priced months of 1835, viz. July and August, at the price of 49*s.* 9*d.*, only 510,513 quarters were sold. But in November and December, when prices had receded to 35*s.* 5*d.*, 704,100 quarters were sold.

Mr. Tooke has a similar remark, (Prices, III. p. 40.) Between 1831 and 1839, the *apparent* average was 56*s.*—the *real* average obtained by the farmer, he estimates at 50*s.*

Cranberries.

Messrs. Editors,—On Monday last, I went in company with Capt. E. B. Hallet, to North Dennis, to examine the *Cranberry Yards*, and obtain information respecting the mode of cultivation. We called on Capt. Henry Hale, who went round with us and showed us his grounds, and gave us such information as we desired.

He had been engaged in the cultivation of the cranberry forty years. Near his house was a swampy piece of land, separated from the sea-shore by a tract of sandy land. This tract being easily cultivated, was planted till its productive powers were exhausted, and was then left without protection, and the loose sand was blown about by the winds and covered up a large part of the swamp. Capt. Hall stated that the first vines he saw, was on that part of the swamp covered by the sand. These he protected against cattle by a rail fence. A part of the vines he took up with a spade, and set within the enclosure, and on the fourth year, he gathered four bushels of cranberries, being at the rate of a bushel and a half to the square rod.

The success of this small experiment induced him to continue to transplant vines. That part of the swamp on which no sand had blown, he covered to the depth of six inches, and his *Cranberry Yard* now contains an acre and a quarter, thickly set with vines. His average annual crop, for the last thirty years, has been one hundred bushels. In 1839 he picked 215 bushels; but in 1843, he had only 70. The crop having been injured by the dry weather. His present annual expenses are, two days' labour cutting up bayberry sprouts and briers, and twenty-five cents per bushel, for picking.

Capt. Hall estimated the whole expense of draining, carting on the sand, procuring and setting out the vines, at $80 per acre. He spreads beach sand* six inches thick over the swamp, or meadow, and sets the hills of vines about three feet apart: spring or fall is a suitable time for setting. The vines should be dug up with a spade and cut into sods about six inches square, and set level with the surface of the land. The first year after they are set, the vines will usually spread from hill to hill, but it requires three years in favourable situations for them to become thick set, and be in good condition for bearing. The cranberry *plant* seems to derive most of its nourishment from the atmosphere and water, for it produces better on loose sand well saturated with water, than on the richest soils. The cultivators are not agreed on the point, whether in preparing lands for the cranberry, it is, or is not better to spread a little soil over the sand. Most think it is not advisable. They say when soil is put on, more grasses spring up, and it takes a longer time for the cranberry vines to kill out the grass and rushes, and obtain complete possession of the surface. On the other hand it is said, where soil is spread on, the vines will do better the first year.

Captain Hall can plough his cranberry grounds. His custom is to let the water remain on the vines till May. The cranberry blossoms about the 20th of June, and the crop would be destroyed if the water remained till that time. It is said that ploughing a few days in July, will prevent the cranberries from being wormy.

On account of the frost and water, we were unable to examine the subsoil of the cranberry grounds as we intended. On Capt. Hall's, the subsoil is sand mixed with decayed vegetable matter and mud. He has made an experiment on a peat soil, but did not succeed well. He set an eighth of an acre, and one year he had twenty bushels of cranberries thereon, but the crop failed so often that he has abandoned the yard.

Mr. Peter Hall's and Mr. Reuben Hall's Cranberry yards adjoin. Before the land was drained, it was covered with rushes and coarse grass. The soil contained no peat. Mr. Peter Hall, a year ago last autumn, set thirty rods. He first put on six inches of beach sand over the rushes, and then spread on two inches of sandy soil. He cut his sods six inches square and set them three feet apart, and the vines ran from hill to hill last season, and look very promising.

A part of Mr. Reuben Hall's yard has been set five years, and the vines look finely and last year produced a bushel to the square rod. He has half an acre, and flows them in the winter.

Mr. John Hall has about half an acre set in beach sand on the margin of a pond. In some places the peat is mixed with the sand. The vines set a year ago look well.

Many others in Dennis and in other towns, cultivate the cranberry with success, but as all manage uniformly it is unnecessary to give further particulars. Mr. Thomas Shiverick and others, have filled up more than acre at the lowest end of Scargo pond, for cranberry yards. They have put up a *bulk head* in the pond six rods from the shore, where the water is three feet deep, and have filled in the part enclosed with a sand,†

* Pulverized silex.

† Granite sand.

which contains some gravel. Some vines set a year ago, look well. Mr. Shiverick and his neighbours are sanguine of success. They are certainly deserving of it. The great difficulty which they have to overcome is, they cannot drain or irrigate their yards when they may wish.

The people at North Dennis, are only imitating in a small way, numerous and extensive natural cranberry bogs on Sandy Neck, which annually produce thousands of bushels of fruit. These bogs are claimed as the common property of the *sovereign* people of Barnstable and Yarmouth, and they also claim the high prerogative of picking the cranberries when and how they please. A few years since Barnstable took possession, and sued the Yarmouth people as trespassers. The case after passing through many courts, was finally decided at a law term against Barnstable, so that all are again restored to their inalienable right of picking green cranberries at Sandy Neck. If these bogs were private property, they would yield a large increase, but being public property they are of very little benefit to any one.

The soil and subsoil of the Sandy Neck bogs is beach sand, with a small admixture of decayed vegetable matter. The best cranberries grow where there is the least vegetable matter. The reason for this is not that cranberries will not grow on a richer soil; but that on the poorer grounds they will extirpate grass, and even the rush, wherever the surface is well drained in summer. The bogs are covered with water in the winter, which soaks away and evaporates in the course of the spring. The soil is always damp and water is always found near the surface.

I have given, at your request, Messrs. Editors, all the facts known to me, that I thought useful to your readers. I make no recommendations. I have endeavoured to state the facts accurately, and I leave it to others to conclude whether they can profitably cultivate the cranberry.

AMOS OTIS.

Yarmouth, March 15th, 1844.

Editorial Remarks.—We are much obliged to our correspondent, for the pains he has taken in collecting information and giving an excellent article on one of our most valuable and profitable fruits. We published an article sometime since, showing the great advantage of sand as a dressing for cranberries.

As strawberries grow well on fresh meadows and bogs, and yet are sometimes very productive on salt marshes, is it not reasonable to suppose that a plant that will flourish so well as this does on salt lands, will in fresh meadows be benefited by salt? And as they succeed so well where there is no salt, may we not suppose that much salt is injurious, and that there would be an improvement on salt marshes in reducing, in some cases, the quantity of salt, by draining, so that the salt water which covers the land at high tides, may readily run off, and not too much soak into the land, or by preventing a flow when convenient?

As this subject is very important, we should be pleased to hear the opinions of those who have useful information on the subject, and we would recommend experiments with salt on a small scale. Different quantities should be used, at the rate of five to twenty bushels an acre. Make exact experiments, marking off the land, and making a memorandum and measure the produce, and make the various experiments on land of equal productiveness. We shall be pleased to hear from those who try it.

As to flowing cranberries, it has been a general practice to let the water off about the 1st or 10th of May, but to prevent early blossoms, and a liability to destruction by frosts, some cranberry growers last season, kept their grounds flowed till the last of May, and they thought this system was an improvement. We name it for experiment. Some meadows through which considerable streams of water run, are flowed in a short time when there is prospect for a frost in summer, by which large crops are obtained in seasons when there is a general failure.—*Boston Cultivator.*

Raising Turkies.

We have occasionally made reference to the profits to be derived from attention to poultry in the vicinity of our large cities. The following sensible remarks are made by a correspondent of the Cultivator, and are dated Hartford, Conn. Those immediately interested, may gather some good practical hints from them.—ED.

MY first experiments with the turkey were unsuccessful; and most of my good neighbours, when they heard of my failures, were prompt to exclaim, "we told you so." But the loss of all my eggs the first year, and little better the next, did not convince me that turkies could not be raised. I have this year raised eighty-six, and feel quite sure, I could raise two hundred another with little difficulty. For two or three years past, I have succeeded so well, I feel some confidence in saying that others will run no great risk in adopting my plan.

He who would succeed well in this business, must, during the winter, feed his flock

well, and *familiarly*. By the middle of March or first of April, they will probably commence laying. If they are quite tame, as they can be made to be, they will be likely, if left to run at large, to lay about the house or barn; but the safest way is to drive them into some shed every morning, and let them out about noon. They will then lay in the corners of the room; and when they come to set, they will be convenient to be taken care of, and by closing the door at night, they are secure from harm. After some three or four, or more, commence setting, others may be shut in a different place. I usually take the eggs from the nest as they are laid. A turkey will cover from seventeen to twenty-one eggs. I last season, set three turkies with twenty-one eggs each, and they hatched sixty. One of them hatched every egg. These were in one room. I never feed the turkey on the nest, and I am decidedly opposed to the practice of so feeding them. It is well enough to place feed where they will find it; but if the turkies are hardy and in good condition, this is not very necessary. Most turkies are good setters, and such will commence hatching in twenty-eight days. They should be left upon the nest until the young are dry and able to stand. The hen may then be put into a coop in a warm, dry place, and the chicks permitted to run out, *but should not be fed for twenty-four hours*, or even a longer period. I am very particular on this point, as I think many young turkies are destroyed by over feeding soon after they are hatched. After the first day, a little curd or boiled egg may be scattered upon a board or flat stone. If the weather is cold or wet, it is well to season their food with pepper. I have experimented with giving young turkies feed *very highly peppered*, and have never seen any bad effects, and have frequently noticed cases where I was quite sure the use of it had produced much good. Very little, if any Indian meal, should be given. If used, it should be wet up some hours before being fed out. I will not tax your columns with prescriptions for the cure of the different "evils" which young turkies are "heir to." A *sick* chicken is worth nothing; and my experiments with such, have been of the bold kind, upon the "kill or cure" principle; and I have sometimes effected astonishing cures. But it can be of little practical use to your readers, to give a full statement on this head. "An ounce of preventive, is better than a pound of cure." After the first two or three weeks, it is well to let the old turkey out some four or five hours each *pleasant* day, if you have a pasture or other suitable grounds. There is much danger, however, in leaving them out over night, as they are disposed to wander about while the dew is on.

There is a diversity of opinions as to the best variety of the turkey. Some preferring the pure white, others the black; and some there are, if we are to judge by their practice, who prefer every mixture of colour, "ring streaked and speckled." I go for the native colour. My flock at the commencement of last season, consisted of a turkey cock, the first generation from the wild state: the colour and shape exactly agreeing with the wild turkey; and eight hen turkeys of my own raising. The hens are of a dark colour, yet not black, with an inclination to white at the end of the wings. A very large share of those raised the last season, were in colour and form like the cock, with less of the flesh colour on the legs. I would give a more full account of my flock as it appeared in the fall, before I made inroads upon it; and a more full description of the colour and brilliant plumage of many turkies now on hand, but fear your readers would think me drawing from fancy.

My opinions and recommendations thus briefly stated, are based upon experiments of my own, and differ in some particulars from writers upon the subject. "Boswell," for example, advises "the putting two or three eggs of the common fowl, under each turkey, that the common chicks may set an example for the turkey chickens, and which determines them to eat sooner than they otherwise do." Now this is all moonshine. Young turkies are more in danger of eating too much than too little; and I would again caution all who would hope for success, not to feed high the first week or two. Feed often, but sparingly. If during the first four or five weeks any of them should droop, and decline eating in the morning, give them pepper, by taking a small quantity of their regular food and about an equal quantity of pepper, mix it, and give as much as a healthy one of the same size would eat.

To improve the Quantity and Quality of Pears.—During the winter lay bare the roots of the tree, by digging for a space of two feet each way from the tree; fill the hole half full of Blacksmith's cinders or old iron, and in the spring fill up the hole with new earth or compost; the cinders or iron being exposed to the weather, oxides during the winter, and conveys by means of the roots to the tree and fruit; the quality of the fruit will be found much improved, and many trees now worthless, may have their health and usefulness restored.

From the New England Farmer.

Experiments in Soaking Seed-corn in Muriate of Ammonia.

Some time last May, I accidentally saw a notice of some mode of preparing seed for planting, discovered in Germany, which was said to ensure good crops, even upon poor and barren land, at a very trifling cost. What the preparation was, the discoverer refused to make known. While thinking over the various substances that had been or might be used with advantage, it occurred to me that muriate of ammonia, the common sal ammoniac of the druggists, might answer well for the purpose required, both from the nature of its base and its acid; and I determined to try the experiment.

I accordingly dissolved a small piece, weighing by estimate four or five grains, in about half a coffee-cup of water. Into this a small handful of good sound corn was thrown, and suffered to remain four or five hours, and then planted. By the side of each hill, at a proper distance, was planted another hill with corn from the same ear, but unsoaked. Generally in each spot only one hill of each kind was planted; but in one place a hill of the soaked was planted on each side of the unsoaked. The particulars and results were as follow:

No. 1. Planted in a good light soil, into which a fair dressing of coarse long stable manure had been ploughed; about five kernels were planted in each hill.

Soaked.	*Unsoaked.*
8 ears, 6 good, 2 small.	4 ears.

No. 2. Three hills—two of soaked, and between them one of unsoaked corn. Soil dry, sandy, and close to the edge of a path where little or no manure fell in the spreading of it:

Soaked.	*Unsoaked.*
5 ears, 3 of them good.	3 good ears.
5 " 3 " "	

No. 3. Two hills—in a dry sandy bed, occupied for a dozen years by gooseberry bushes, which were rooted up about two years before. During all that time, the ground had never been manured, otherwise than that a dressing of rotten chips had several times been put about the bushes, which were well trimmed and kept clear of weeds. During the last two years, it had borne cabbages, which were watered a number of times, with soap-suds and the drainings of a sink where dishes were washed:

Soaked.	*Unsoaked.*
3 large good ears, and 3 abortive ears.	2 rather poor ears.

No. 4. Two hills—on the edge of a sandy square, reserved for several years past for squashes, which were manured in the hill, so that the place where the corn was planted, had no benefit from it, being at least four feet from the nearest hill:

Soaked.	*Unsoaked.*
3 good ears.	3 poor ears.

No. 5. Three hills—in a moister piece of ground, into which a light dressing of coarse stable manure had been dug with a spade, but just under the edge of the boughs of some large honey locusts, the roots of which filled the ground and exhausted the soil, so that I have found it difficult to make any thing valuable grow there but early bush beans:

Soaked.	*Unsoaked.*
4 good ears.	3 poor ears.

The land where all the first four experiments were tried, was light and dry, and suffered considerably from drought about the time the ears were forming. Potatoes for early use, in the immediate vicinity, were completely stopped in their growth about the last of July, the hills being perfectly dry to the bottom, and not getting fairly moist again for a period of three weeks. Owing to this, the produce of the corn was less than it would have been with seasonable rains; but in all cases, the hills, the seed of which had been soaked, manifested superiority, not only in productiveness, but in the size and vigor of the stalk and leaves; as was remarked by several of my friends, whose opinion I asked without informing them of any difference in the seed. For all the trials but the first mentioned, poor spots were taken purposely, that the effect of the soaking might be observed free from the influence of manure.

Three or four soaked kernels were also planted in a spot near the door of a shed, where the sprouted cuttings of grape vines had been several times set, and all which had perished from the united effects of drought, barrenness and heat. Even here I obtained three good stalks and two good ears.

Samuel Webber, M. D.

Charlestown, N. H., Feb. 19th, 1844.

By driving your business before you, and not permitting it to drive you, you will have opportunities to indulge in the luxury of well applied leisure.

We are indebted to William D. Bowie of the Maryland Senate, for the following Report, which will be found particularly adapted to the reading of the intelligent farmer. It contains many facts in relation to lime and its action, which we are apt to find wrapt up in too much scientific matter. It is valuable on this account: it may be understood without much chemical knowledge.—Ed.

Report of the Committee on Agriculture, relative to the Application of Lime to the different qualities of Soil, and the use of Calcareous matter for Agricultural purposes.

In obedience to an order of the House, of the 27th January.

The Committee on Agriculture, to which was referred the order submitted by Mr. Smith, on the 27th of January, beg leave to report:

That an increased production from the soil, effected by the application of lime, has by no means been a discovery of modern times. As it exists in marl, it was long used by the ancient Greeks, who probably knew not that they were applying lime. The Romans were aware of the value of marl, but its existence in Italy was not known till after the fall of the Roman Empire. When they pushed their conquests into Gaul and Britain, they found the barbarian farmers, as they were considered, manuring their lands with marl, which they have continued to do to the present day. The application of calcined stone or lime to land in Europe, commenced at a later period, perhaps but little before the beginning of our era. The Chinese now use it, and no doubt, have been in the practice from a remote period. Since the revival of letters the attention of scientific men has been devoted to the *rationale* of its action upon the land. They made little progress, however, until within a few years past. The discoveries of Saussure, Davy, Chaptal, Sprengel, Boussingault, and a host of other eminent inquirers into the relations of chemistry to agriculture and vegetable and animal physiology, laid before the world a mass of valuable facts, which the gigantic mind of Liebig has enabled him to generalise, and to develope light and certainty where much darkness and mystery formerly existed. The principles adopted in his investigations, brought him to conclusions which seem evidently founded upon the immutable laws of nature. We may safely assert that a new era has dawned upon agriculture and physiology.

On the continent of Europe, where it is esteemed the duty of the different governments to encourage agriculture, as far as lies in their power, we find many able men under their fostering care, devoting themselves to the important occupation of bringing science to the aid of agriculture, and a flood of light is being shed upon the subject of rendering the soil more productive. In England we find them fully alive to the subject: her nobles and gentry, who were in times past disposed to rest their claims for honourable distinction upon their success in making war upon their enemies, or upon one another, are now found entering the lists to compete with each other, in the less chivalric, but certainly more useful occupation of raising turnips. The princely fortunes of many of her land holders, enable such as require it, to get efficient aid from the investigations of scientific men. The works of Professor James F. W. Johnston, who is exclusively devoted to agricultural chemistry, are republished in this country as fast as they issue from the press in England. They are of inestimable value to the farmer.

A few years since, there would have been little use in making the inquiries now proposed to the committee, for the reason that there were too few data to start with; the subject was so much veiled in mystery, that we could have said little more to the farmer than, "that as experience proves, that lands cannot for a long period be profitably cultivated without the application of lime in some form or other, it is expedient to use it." Now, however, such a wide field of research is opened to us, that we find it difficult to confine ourselves to those branches of investigation that we can complete within the time we have allotted for making this report. While we regret that the lateness of the period when the subjects were committed to our charge has prevented a more full examination, and a more systematic arrangement of the matter, we hope, our exertions will be found to throw some light on this interesting subject, and be of some little practical use at least, to our agricultural community—and make still more manifest the importance of further pursuing the subject of the application of science to agriculture, so that we may keep pace with the improvements of the age.

Of the properties of lime and some of its compounds the most important to agriculture.

Lime is not, as was formerly supposed, a simple substance; it is composed of a metallic substance called calcium united to oxygen. When pure it is a white, brittle, earthy solid, having alkaline properties, whose specific gravity is to that of water as 2.3 to 1. It is *per se* one of the most infusible of known bodies, having a strong

affinity for water, and when combining rapidly therewith, a considerable degree of heat is developed, as may be observed when it is slacking. The heat is often sufficient to ignite wood and other combustibles. The compound of lime and water, constitutes what is called *hydrate of lime*, or water slacked lime; its constitution is

Lime, . . .	76 parts.
Water, . . .	24 "
	100

This hydrate is sparingly soluble in water, and more so in cold than in warm water. About 700 grains of pure water, free from carbonic acid, will dissolve 1 grain of lime.

Carbonate of lime, (common limestone,) consists of

Lime, . . .	56 parts.
Carbonic acid, . .	44 "
	100

It constitutes the great mass of the limestone and chalk which form so large a portion of the crust of the earth. It is the principal constituent of shells, and forms the calcareous matter of marls.

Carbonate of lime is nearly if not quite insoluble in pure water, but is readily dissolved in water containing carbonic acid, and as rain and snow water always contain carbonic acid, lime upon or near the surface of the earth is unceasingly being dissolved and diminished in quantity—an exceedingly interesting fact in an agricultural point of view.

Lime in combination with phosphoric acid is called *phosphate of lime*, and sometimes "bone earth." It constitutes, with a smaller proportion of carbonate of lime, nearly all the earthy matter of bones. It also exists in small proportion in shells.

It is insoluble in pure water, but the presence of acids (even the weakest of all, carbonic acid,) renders it soluble. Phosphoric acid and lime unite in several proportions, but the combination that most concerns us, is that which forms part of bones and shells, which is

Phosphoric acid, . .	52 parts.
Lime, . . .	48 "
	100

Sulphate of lime, is well known under the names of *gypsum* or *plaister of paris*, and when pure consists of

Sulphuric acid, . .	46 parts.
Lime, . . .	33 "
Water, . . .	21 "
	100

Having thus briefly glanced at some of the properties and combinations of lime, we proceed to treat of lime as a manure, &c.

Of Lime as a manure or as a constituent of plants.

The elementary constituents of all plants, for the most part consist of carbon, hydrogen, oxygen and nitrogen. The first three exist in the largest proportion, and form the great bulk of the plant, the last is equally necessary, and with the rest, form the albumen, gluten and other nitrogenous compounds which principally abound in the seeds and juices of plants. The air of our atmosphere always contains water, carbonic acid and ammonia, which furnish to plants the above named elements, nearly equal perhaps to their wants, after the first stages of their growth. In former days these were believed to be all that were essential to vegetation, but modern science has demonstrated that certain mineral substances, which the results of combustion proved always to exist in plants, were quite as essential to their growth.

We might illustrate this position by the investigation of animal and vegetable physiology, but we must avoid digressing more than is absolutely necessary to the proper understanding of the subject under consideration, and be content with the remark, that nature has decreed that plants shall receive certain matters, in a great part from the atmosphere, and those we call their organic part—but their mineral constituents *must* come from the soil. The most important of these mineral substances are potash, soda, lime, silica, magnesia, iron, manganese, phosphorus, sulphur, chlorine and iodine. There are others found in smaller proportion in plants, but most of these are perhaps non-essentials.

The mineral matters constitute, generally, from one to two per cent. of the living plant, and are what we call ashes, when the combustible parts have been burned away. Their state of combination is varied by every different plant.

The phosphorus is, perhaps, always united to oxygen, forming phosphoric acid, which in plants usually exists in combination with lime or magnesia, or with both, as in the grain of wheat, and in many other seeds. The sulphur, in most instances, exists as sulphuric acid, which is generally united with lime in plants, but often is combined with potash, soda, &c.; the chlorine is a combination with the potash, or forms with the soda the well known common salt. Iodine only exists in plants growing in or near the salt waters. Besides these mineral acids, various other acids, the products of vegetable organism, form in plants, compounds with the above named alkalies, earths and metalic oxides.

Before this subject was sufficiently investigated, it was common to consider only such substances as furnished *vegetable* food to plants "*manures*," whilst mineral or inorganic matters, such as lime, potash, &c., it was supposed, entered the plants to act as stimulants, or to have some undefinable mechanical action. Some are sufficiently fanciful yet to cling to the stimulating theory, but the exact and rigid rules for scientific investigation of the present age permit not the indulgence of fancy, which has been transferred from the more exact sciences to poetry. Each plant always contains certain mineral or organic compounds, (subject to little variation, as will be seen) in whatever part of the world the plant may have its existence. If these essentials be deficient, the plant will languish, and produce a stunted growth: if entirely absent from the soil the plant will die soon after exhausting the minute quantity which the seed contained. In order to show what is necessary to some of our most important plants, we will state the quantities and kinds that exist in Tobacco, Wheat and Clover.

1,000 *lbs. of dried Tobacco leaves contain:*

Chloride of potassium,	.63 lbs.
Sulphate of "	.50 "
Potassa combined with nitric and malic acids,	.91 "
Phosphate of lime,	1.66 "
Lime combined with malic acid,	2.44 "
Silica (same as flint or quartz,)	.88 "
Being about seven pounds.	7.02

1,000 *lbs. of Wheat and the* 2,000 *lbs. of Straw that has borne it, contain:*

	Grain.	straw.	total.
Silica, (sand)	4.00	57.40	61.40
Potash,	2.25	.40	2.65
Soda,	2.40	.60	3.00
Magnesia,	.90	.64	1.54
Alumina, (clay)	.26	1.80	2.06
Sulphuric acid, (oil vitriol)	.50	.74	1.24
Phosphoric acid,	.40	3.40	3.80
Chlorine,	.10	.60	.70
Lime,	.96	4.80	5.76
The total being 82.15 pounds.	11.77	70.38	82.15

1,000 *lbs. Red Clover when made into Hay contain:*

Lime,	27.80 lbs.
Potash,	19.95 "
Soda,	5.29 "
Magnesia,	3.33 "
Silica, (sand)	3.61 "
Sulphuric acid,	4.47 "
Phosphoric acid,	6.57 "
Chlorine,	3.62 "
	74.64 "

Besides traces of Alumina and Iron.*

* These results show that clover contains in equal weights, nearly three times the amount of inorganic matters contained in the whole wheat plant, deducting the roots. If we deduct the silica, which abounds in all soils, we find that clover contains nearly *ten times* the quantity of minerals as wheat. One great effect of clover is the pumping up, as it were, by means of its long and descending roots, these necessary materials, from depths to which tobacco, grains, grasses, &c., do not reach. The crop being allowed to rot on the ground, or fed to stock whose manure is put on the fields, gives a large quantity of mineral matters, which we believe are more effective to the succeeding crop than the vegetable part.

It has been ascertained, that 1,000 lbs. of maize or Indian corn, contain 15 lbs. of the Phosphate and Sulphate of lime, but a complete analysis of the whole plant has not yet been made, as far as has come to our knowledge. Every soil depends for its fertility, mainly upon its containing due proportions of certain mineral matters. We find, however, that nature's laws admit plants (in cases where one or more of these are deficient,) to substitute certain others, but this is confined within well defined limits. For instance, one alkali, or alkaline earth may supply in part the place of another, and some acids may be partly supplied by others, but here those partial substitutions stop. As an instance for illustration, we may give the fact, that where soda and potash are deficient in a soil, their place is partly supplied by lime, but if all three be absent, the soil will be absolutely sterile, however well we might manage it in all other respects, except in supplying the deficiency. Hence we would remark, that to determine whether lime "acts as a manure," we must know in what sense the term is used. If we mean by manure, such substances as upon being added to a soil, increase the growth of plants therein, it follows that lime as well as many other matters essential to vegetation, act as manures only in such soils as do not contain them in due proportion. We shall conclude this branch of our investigation with the following maxims, viz:

1. Lime is an essential constituent of plants.

2. That plants will not thrive when it is entirely absent from the soil.

3. Chemical analysis has demonstrated that lime exists in all fertile soils that have hitherto been accurately analysed.

4. In such soils as are absolutely sterile, it has been proven when they have been analysed, that some of the essential inorganic substances are absent; and that it is lime very frequently.

Having hitherto treated of lime only as a mineral constituent of plants, we proceed to show that lime and the alkalies serve other important purposes of vegetation.

Of the effects of Lime upon the substances composing the soil.

Lime and the alkalies act energetically upon organic textures living or dead; the action of the alkalies potash and soda, is but slightly lessened, even when they are in combination with carbonic acid. The action of carbonate of lime, however, is far more feeble than quick lime. In hastening vegetable decomposition, the alkalies and lime also accelerate the liberation of the inorganic matters contained therein, and at the same time produce a more ready supply of humus, useful to the plant in all stages of its growth, but more particularly so, when young, and before it has many leaves to get sufficient supplies of carbonic acid, ammonia and water from the atmosphere. Lime and the alkalies decompose many stony bodies, and liberate matters useful to vegetation.

Most of the rocks of Maryland contain lime, potash and soda, and sometimes all three exist in the same rock. Soils which have not been produced by matter deposited by water, (called transported soils,) are the result of the slow disintegration of rocks, and when sufficient of such finely disintegrated matter accumulates upon the rock, plants begin to grow in the soil so formed. The soils of our territory above tide-water have been thus formed, while the soil of the lower country has been for the most part transported by water. We should expect therefore, such matters as existed in the rocks would be in the soil, and such is the fact, although portions of some of the constituents are carried off in solution. An important use, then, of lime, is further to promote the decomposition of the mineral constituents of the soil, in order to eliminate such as plants require. We cannot conceive an arable soil to exist, in which lime will not, in this manner do good service. The mechanical texture of soils is improved by the use of lime. All farmers know how necessary it is, that a soil should neither be so stiff as to prevent sufficient access of air and water, nor so light as too readily to permit water to escape by percolation, or evaporation. When a soil is loose or friable, it is owing to the presence of sand and other small grains of rocks not sufficiently disintegrated. Lime continues the process of decomposition or disintegration, and of course produces a finer texture to the soil, at the same time that it liberates a further supply of the alkalies, and other useful matters they may contain. So much then for the action of lime upon the mineral constituents of the soil. We incline to the belief, that a more important use to us is in its action upon the decaying vegetable and animal matter in the soil. It has long been known that the beneficial effects of lime are more striking when applied to soils which abound in organic matter, such for instance, as grass or clover fields. This is due to its hastening the decay of the vegetable matter.

We should bear in mind that this occasions a more rapid exhaustion of these matters in the soil, in the regular course of cropping, unless supplied by manures containing the same elementray principles which have been abstracted.

To be continued.

For the Farmers' Cabinet.

Hereford Cattle.

Mr. Editor,—Since you were so kind as to publish in your February No., the few questions put to Mr. Sotham, touching the characteristics and qualifications of the cattle to be exhibited under his challenge, I beg you to extend to me a further courtesy, by permitting me a few remarks by way of explanation,—for that I should explain seems necessary, by reason of Mr. Sotham refusing to answer, as may be perceived by your allusion to this subject in the last No. of the Cabinet.

1st. Were my interrogatives obtrusive or impertinent! I hope they were not susceptible of that construction, or so adjudged by any of your readers—I am quite sure, nothing was further from my thoughts than to give cause of offence to any—my interference was directed solely by a sense of duty to the cause of a leading feature of our national agriculture, and the desire to place the trial proposed by Mr. Sotham, on a fair, plain, and definite basis, in justice to Mr. Sotham, as well as to his competitor.

Was it not apparent to the readers of the "Cabinet," the "American Agriculturist," and the "Cultivator," that Mr. Sotham had thrown himself broadly before the public, as to the merits of his cattle, and in his challenge to the whole United States! Under these circumstances then, has he a right to complain, or to withhold the information sought by me, because I thought proper to be anonymous on the occasion! Certainly not, since nothing offensive or improper was asked of him; especially as the questions put were not for my own gratification, but for the benefit of all.

Again, suppose I had not a single animal suitable to exhibit against Mr. Sotham's cattle, and yet feeling a lively interest in the production of fine stock, should this debar me from seeking to place *the trial on*

such grounds as might open the way to others differently situated, who might be in a better condition than myself to enter the field of fair competition with Mr. Sotham?

Had I used my real name, could it have more weight in the premises than a fictitious one, inasmuch as the matter was of a public and not of a private character? And in addressing Mr. Sotham on such a subject, was it not natural in me to suppose, that did I use my own name, I might be accused of presumption or vanity, in making a show in the eyes of the public—placing myself in a position I could not maintain. And would not these reflections naturally induce to the course I adopted. I submit therefore, in view of all the circumstances, whether it was proper in Mr. Sotham to refuse the explanations sought by me, through so respectable and appropriate a channel as the "Farmers' Cabinet," and whether in so doing, he has not placed himself in an equivocal position, and from which nothing can extricate him, but plain and pertinent answers to the questions propounded by

Your obedient servant,

Fair Play.

March 21st, 1844.

The foregoing communication was intended by the writer, and was received in time for the last number: it had in fact, been placed in the hands of the printer. Subsequently to its reception, the letter from W. H. Sotham, dated March 20th, and alluded to in an editorial a month ago, coming to hand, and feeling as if we wanted to say a word in the case, we concluded to postpone the above till this month. "Fair Play," will please excuse the delay.—Ed.

Ringing Bulls.

In order to manage and handle bulls with safety, it is proper and highly necessary to have a ring in their nose. Nothing will so completely subdue, and render them manageable, as a ring, and it should be put in when young: our practice is to ring them when about eight or nine months old, as at that age, or even if one year old, it can be put in with very little trouble, and no risk. As soon as they attain the age of eight months, if well grown, they are apt to get so headstrong, like some of our boys, that it is difficult to lead or manage them, with a halter or a rope around the horns. Besides, if they begin to show any temper, or a disposition to be cross, the ring has a wonderful effect in cooling them down. If suffered to go until they are eighteen months or two years old, the trouble of putting in the ring will be much increased, as well as the risk of injuring the animal, by pulling the ring out of his nose.

By those who have not had experience in the business, it is considered very difficult and troublesome to put in the ring; but such is not the case, and when every thing is prepared and ready, it is but a few moments work.

Formerly it was difficult to obtain a suitable ring; they were generally made by a common blacksmith, in a very coarse bungling manner, and so rough and large, that it would make one's nose ache to look at them. The wire was often from three-eights to one quarter of an inch; and the diameter of the ring, from three to four inches; and the joint, if it had one, so coarse and rough, that it would not slip through the hole in the nose, and the weight seemed to bear their heads to the ground, more particularly when loaded by the weight of a needless chain.

The first ring we had occasion to use, we got made by a blacksmith, who said he had made a number for the purpose. It was about three inches in diameter, without a joint, and left open sufficiently wide to put into the nose, after which it was closed by placing the head of an axe on one side, and then by several raps with a heavy hammer on the opposite side, it was closed, but not always so as to have the ends come together evenly, the edges of which would constantly irritate, and keep the nose sore.

The method which we adopted to make the hole, and which we have seen recommended in some of the agricultural works, is cruel and barbarous. It was an iron rod, larger than the wire of the ring, tapering to the point like a bodkin, which was heated just sufficient to distinguish the heated part in daylight, and thrust through the cartilege of the nose, far enough to make the hole sufficiently large to give free passage to the ring. In this way it not only rendered the animal's nose very sore, but it took a long time to heal. After one or two trials, we abandoned it, and set our wits at work to remedy the evil. We accordingly applied to a white-smith or cutler, and had some made after a plan of our own. They were made of steel, the wire a quarter of an inch in diameter, with a joint, and the end halved and secured with a small rivet or screw, with the head countersunk, so as to be perfectly smooth on the surface. These rings were finished perfectly round, smooth and highly polished, which in a measure, prevented them from rusting.

To make the hole in the bull's nose, we then took an old steel, such as is used for sharpening knives, and had the point flattened to an edge on both sides, which we call a stiletto. This cut a hole a little

larger than the wire of the ring, apparently causing little or no pain to the animal, and the wound will heal in the course of a few days; in fact we do not now recollect of ever having one with a sore nose. The joints, and the wire of the ring being perfectly smooth, causes no irritation, and the animal does not seem to mind it in the least.

These rings are now manufactured and finished in a very superior style, by Messrs. Ruggles, Nourse, and Mason, at Worcester, Mass., and found for sale in most of the agricultural, and some of the hardware stores, at a fair price.

Now we will give in detail, our method of performing this operation, which we have followed for the last eight or nine years with perfect success.

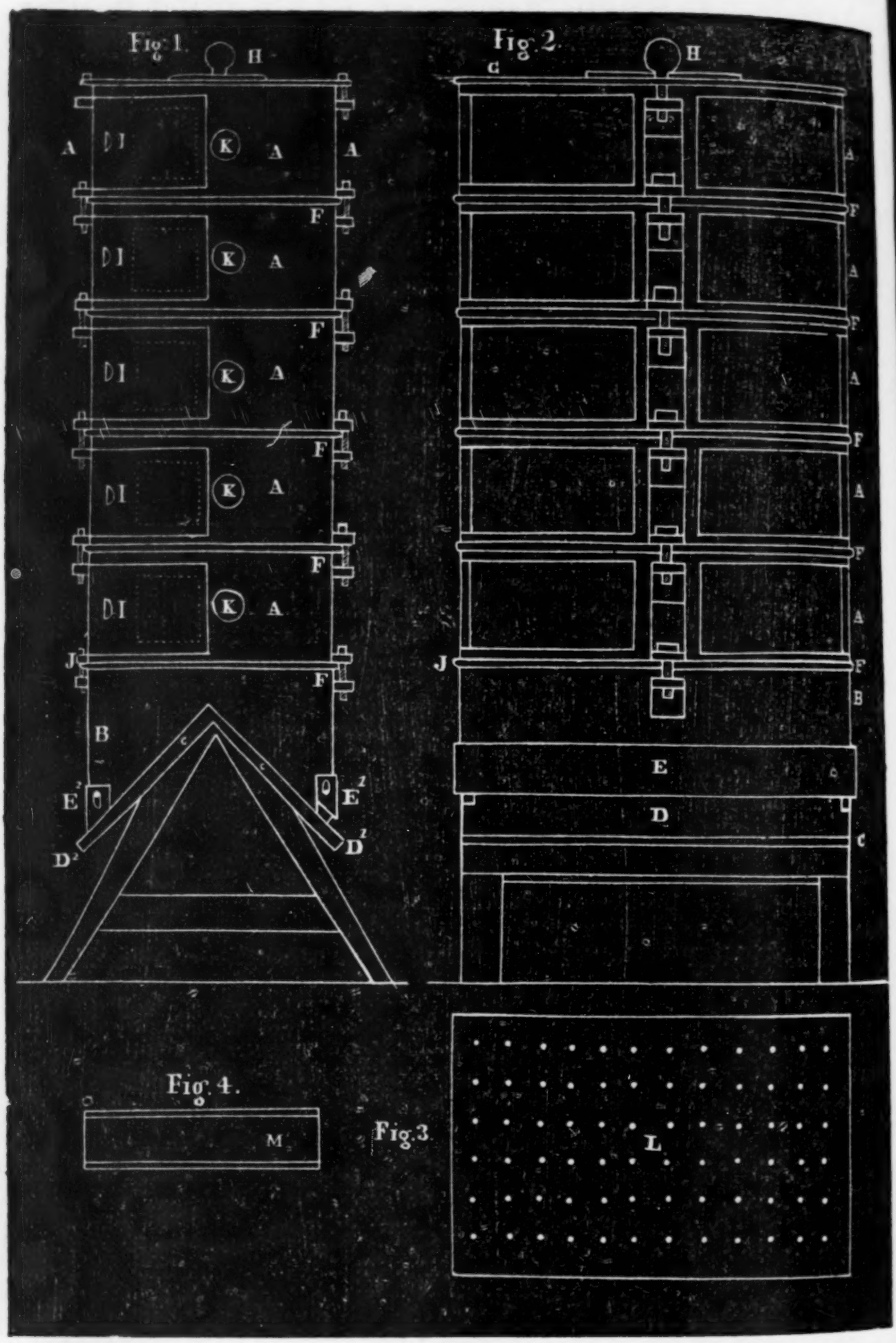
If the animal is young, we take him to the cows-stable, and secure him to one of the stanchions by the neck. We then take a good sized rope and tie around his horns, take a twist around his nose, and elevate it about as high as our breast, resting it on a rail or piece of joist, and secure it firmly. To prevent the animal from injuring himself, if there is no partition to the stable, take two rails and secure one on each side of him, to keep his body straight. Having all things ready, the small screw out of the ring, and the tools all handy, the operator standing nearly in front, grasps the end of the nose with the thumb and finger of the left hand, and feeling the thin or gristly part of his nostrils, place the point of the stiletto where you wish the hole, and when certain of having it in the right place, thrust it through, and pull it back instantly, or if the animal should give a sudden jerk, let go of the stiletto at once, and as soon as he is quiet, pull it out. Care should be taken to have the hole straight, or parallel to the fine skin of the nose. Immediately after removing the stiletto, still keeping hold of the bull's nose with the left hand, pass the ring through the hole, bring the two ends together, put in the screw, and screw it tight with a screw-driver, and all is finished.

Now, however, comes the most difficult part of the operation, or at least that which requires the most care. Loosen his head, and leave one end of the rope around his horns, putting the knot in front, pass the other end of the rope down in front of his face and through the ring, and lead him to his stall. By this means there is no danger of tearing out the ring, as the power of the rope would be on his horns, for whenever the rope is tightened, and the least stress on the ring, he will immediately throw up his nose on a line with the rope, which eases him at once. If he should prove refractory, and hang back, or dash ahead, do not fetch him up too sudden, but ease off a little, until he learns to yield, which he will soon do, after he gets over his alarm. Do not on any account, struggle with him on the first lesson; but on the contrary, endeavour to soothe, pacify, and inspire him with confidence in himself and the rope, and to show him he will receive no injury, if he but quietly walks along. If he is properly managed at first, and led with the rope attached to his horns and passed through the ring for a few times, he will soon understand the tuition he is undergoing, and behave quietly when led, and be completely subdued by the time his nose will be healed.

Some think the ring should not be used until the wound is entirely healed, but our experience teaches us it is better to use it at once, but carefully, and not torment him unnecessarily. Since we have adopted the foregoing method, we have never had a bull that proved refractory or that seemed to suffer from the wound in the nose. They should never be secured in the stable by the ring; but either with a halter or strap around the neck.—*Central N. York Farmer.*

A Butter Table.—One positive direction in making butter is, never touch it with the naked hand, for it assuredly gives it a greasy, oily taste. Some persons may say that I throw myself into the hands of the critic, by saying that butter is greasy, but they are welcome to make what they can out of it. I will give you a specification of a simple machine to separate the butter from all the liquid matter; and if any person can improve on it, or describe a better, the information will be gratefully received. The one I have in use is a maple plank or board, three feet long, two feet at one end, six inches at the other, a true taper on each edge, with strips six inches wide, nailed on the two sides; there are cleats at each end on the under side, in which is inserted at the narrow end, a leg 17 inches long, and two legs at the wide end, 22 inches long. On the surface of the board, near the narrow end and in the center is an iron staple; a stick of maple three inshes square, three feet ten inches long, a little tapering, a gudgeon in the end, with a flat head that will turn into the staple; the other end may be turned or shaved to form a handle. Butter on this board, worked and pressed with this stick, has the benefit of the liquid substance constantly draining from it as the working progresses, and the labour can be performed in a quarter of the time, much better and much less laborious exertion, than any other plan that has come to my knowledge.—*Cultivator.*

MILHOLLAND & CRANE'S PATENT ENDLESS BEE-HIVE.



JOHN MILHOLLAND & BENJAMIN CRANE, of Chandlersville, Muskingum county, and State of Ohio, have invented a new and useful improvement in the construction and use of the Bee-hive, for which they have obtained Letters Patent of the United States Government, bearing date the 29th day of April, 1842. Of which the following is a full description:

Figure 1st, is an end elevation. Figure

2nd, front elevation. Figure 3rd, the perforated slide. Figure 4th, the tube. Similar letters refer to corresponding parts.

The nature of the invention is in constructing the Bee-house in horizontal, rectangular sections, or boxes, without tops or bottoms, placed upon a base,—supported by four spreading legs—on which base is a double inclined bottom, for the discharge of all offensive matter. The sections are placed upon the base, and upon one another, until the house is raised to a sufficient height, and the upper box is covered with a horizontal top. The said boxes are secured to each other, to the base and to the top, by means of ears fastened to the sides of the said parts, with screw bolts passing vertically through them; or the several sections may be secured together in any other convenient way. The boxes or sections are provided with two windows on one side of each box or section, three inches wide by ten inches long, through which to see the operation of the bees or to examine the interior of the hive; and slides to close over them. The apertures in the ends are for the passage of the bees to a new hive placed against the old one, in colonizing the bees when their return is prevented by inserting horizontal plate *L*, and shutting down the vertical slides over the entrances to the hive. The top is also provided with an opening for introducing a swarm of bees in the usual manner. The Bee-house *A*, may be made of any convenient size. We generally make them about two feet ten inches high, two feet long, and one foot three inhes broad, of inch poplar or pine boards, or of any suitable stuff. The base *B*, should be about seven and a half inches deep, the sides to be glued at each end, and the ends cut off square and well glued and nailed at the corners, having the ends grooved on the inside at right angles, as represented in the drawings, to receive the inclined bottom, *C*, which should be made in two parts, each part inclining upwards towards each other, at an angle of about 45 degrees with the horizontal plane. Their upper edges to meet together at the centre of the interior of the base in the manner of a roof of a house, so as to discharge the offensive matter from the hive on either side where the openings, *D*, are left for that purpose, and for the entrance of the bees, also for a free circulation of air which takes place in hives with two entrances, one opposite the other, more freely than in hives with only one entrance on a side. The said entrances for the bees are marked D^1, D^2. The slides for closing them are marked E^1, E^2. The slide E^1, is open, the slide E^2, is closed. These slides are not to be shut so close but that they will admit air when the ingress and egress are shut off in colonizing the bees. The superstructure of the Bee-house as before stated, consists of a series of horizontal, rectangular boxes, *A*, each from five to six inches deep, and glued and nailed at the corners, the same as described for the base, having mouldings, *F*, around the lower edges outside, to prevent the entrance of air or water, and cross sticks inside near the upper edges, running crosswise or lengthwise, so as to cross the comb in the usual manner. When the sections are put together they should be arranged so that the windows with which they are provided should be in alternate order. The fastenings may be such as those before described, and represented in the drawing. Or they may be of any suitable kind. The roof, or top *G*, is a plain rectangular board, having an opening in the centre, through which a swarm is introduced in the usual manner. At other times it is closed by a lid, *H*. The roof *G*, is secured to the top of the upper box by screw bolts, and ears made like those used for fastening the boxes together, or in any other convenient way.

The base or bottom has no cross sticks, as the bees are never suffered to reach it with the comb. *K*, handles, or knobs for the convenience of handling the boxes. The slide, or plate, *L*, inserted at the joint *J*, when colonizing the bees, is perforated to admit air to the old hive, and cause them to work through the new hive or house. These hives may be commenced with three or four boxes, or it may be full size as the owner thinks best.

To remove the honey the following process is pursued:—Take out the screw bolts of the top; at the first joint raise the first or upper box sufficiently high to admit a fine wire or any other suitable instrument, which draw slowly through: then insert the thin rectangular metalic slide, *L*, between the first and second box. Then remove the upper box and take the top *G*, from the same and put it in the place of the slide over the top of the second box, which will now be the upper box. Then empty the box *A*, of its honey and put it between the lower box and the base. In this manner all the boxes are treated, and thus a perpetual draught of honey is obtained without destroying the bees or driving them from the hive. When the bees become too numerous and ready to swarm, which will soon be the case, prepare another Bee-house in the manner above described;—then provide a tube, *M*, about two inches square or round, five or six inches long, and insert it in the aper-

ture in the ends of the boxes represented by dotted lines, and closed by the slides, *I*, said tube being well plastered around the joints with mortar to prevent the entrance of insects. Then insert the thin rectangular plate, *L*, between the lower box and base, at the joint, *J*, and shut down the verticle slides, E^1 E^2, over the entrance, the arrangement of the slides prevents the egress and ingress of the bees through the entrance of the base, and compels them to go into the new house through the tube. The passage for the bees will now be through the new house. When the bees have commenced building in the new house and have a sufficient quantity for a colony, remove the tube and close the aperture in the ends, and remove the new house. Then remove the horizontal slide and raise the vertical slides of the old house. The bees will then recommence their operations in the old house.

In commencing a bee-house with an old hive, put it on the top of the house over the aforesaid opening in the top, and secure the joints well with mortar. The bees will descend and commence operations in the upper box of the house, when there is a sufficiency of bees and comb in the house, then remove the hive and close the aperture.

Among the advantages possessed by this Bee-house over others in use are,

1st. Its susceptibility of being perpetually emptied of its accumulated honey, without disturbing or destroying the bees, and in larger quantities of honey and of a purer quality. 2nd. Complete ventilation. 3rd. Effectual discharge of all offensive matter. 4th. Convenience of swarming the bees. 5th. Causing the bees to thrive better and increase faster. 6th. In not disturbing the bee-bread, young bees, or empty comb.

The model shown us of the above described hive, is a very neat contrivance, and the inventors regard it as an improvement in the construction of Bee Hives. The inclined plane at the bottom, is remarkably well adapted to the rolling away of the worm, or of any other offensive matter that may fall on it.

On examining his hives in the morning, in the latter part of last month, and the early part of the present, the Editor has been annoyed by frequently finding on their platform, worms full grown, which had no doubt been hatched from the egg of the Bee moth. Where did they come from? Had they been in the hive, prowling among the honey? No signs of them have been discovered in the hives, though closely watched every day. We have uniformly found them either exposed near the entrance, or in a little corner enveloping themselves in a cocoon. Will some of our friends tell us where they came from? Can it be that they had rioted among the honey, and by some mishap, had fallen to the bottom, been seized by the bees, and brought out to die? Were this the case, would not symptoms of them be discovered in the hive?—Ed.

For the Farmers' Cabinet.

Transformation of Wheat into Bromus.

Agricola, a correspondent of the Columbia Spy, wishes to know whether *wheat* be really metamorphosed in *Bromus*, or *cheat*, or *chess*, as he and the Connecticut people call it, although the common term appears the more appropriate one, and asks for information accordingly. His article is written in bad taste, for while he is ignorant of the subject, and desirous of instruction, he remarks "I have thought the idea absurd—scientific men may view it in a different phase"— thus hinting that he expects a coincidence with his views as those of a 'scientific' man, it being doubtful according to him whether any man of science holds the contrary opinion.

Such attempts to bias the mind of an inquirer upon a scientific question, are extremely improper, and until they are discarded, will tend to retard the progress of science. Botanists generally disbelieve in this transmutation—thus Dr. Darlington remarks of Bromus *secalinus*:—

"This well known troublesome grass is a naturalized foreigner, and obstinately accompanies our crops of wheat and rye. Frequently when the wheat has been injured by the winter, or other cause, the Bromus is very abundant; and many farmers are so little acquainted with the laws of nature,—and therefore prone to absurd mistakes,—that they imagine the wheat has been *transformed* into Bromus or Cheat. This vulgar error also prevails among the peasantry of Europe: but in the old world, they think the wheat is transmuted into *Lolium temulentum*, or Darnel,—quite a distinct grass from Bromus,—and which is yet rare in the United States."

It is too often assumed that the laws of nature are identical with the views of authors, and I therefore hope to see the discussion of this question revived, independently of any theoretic consideration, and with every care to discover the true facts by minute, careful, and repeated examination.

I have not formed an opinion on the subject, and having for many years relinquished botanical pursuits, I feel no disposition to enter upon the question any further than to call attention to it; and close this communication with some extracts from the report of a German Agricultural Society, (Coburg) on the metamorphosis of *Avena sativa* (oats) into *Secale cereale* (rye).

"With reference to the transformation of

oats into rye, this remarkable phenomenon has not only been revived by new experiments, but we have caused again beds to be sown with oats, in order that we may be able to convince all disbelievers, by sending them, at their request, rye-stalks which spring from a caudex, that still shows the withered leaves of the oat-plant of the foregoing year. We repeat, that this transformation takes place if the oats be sown very late, about midsummer's day, and cut *twice* as green fodder before shooting into flower-stalks, whereupon a considerable number of the oat-plants *do not die in the course of the winter*, but are changed in the following spring into rye, forming stalks which cannot be known from those of the finest winter-rye. The society must expect that this fact will be considered by many as a mere assertion, nay, there are still a number of its own members who doubt it; these however own, that they have either not made the experiment, or that they have sown the oats too early, and therefore had to cut the oats oftener than twice, in order to prevent it from forming a flower-stalk, whereby the plant loses the power of surviving the winter, and of being transformed into rye. Let any one sow the oats during the latter half of June, and the transformation in question will certainly take place. . . . . If, however, among those who doubt the fact, there be found charitable people who pity us because we trust more to actual experiment than to theory, we should almost be tempted to pity theorists, whose self-sufficiency has prevented them from thoroughly investigating an important phenomenon which was noticed so many years ago. . . . . The Society takes credit to itself for perseverence, in having struggled against the opinion of the public for several years, in order to establish a fact which no systematic physiologist would believe, because people are always apt to confound the laws of nature with those of their system."

S. S. H.

West Hempfield, March 19th, 1844.

The foregoing communication was intended by the writer for the Pennsylvania Farmer; but that paper being discontinued, it was handed over for the Cabinet. We cheerfully give it place, because it is in relation to a very curious subject: we must however be allowed to express our entire disbelief in the metamorphosis spoken of; and for this very simple reason:—it is contrary to every known law of nature. Those who believe in the possibility of the transmutation of wheat or rye into cheat, are bound to place their facts in a position that cannot be disputed—the burden of proof must lie with them, inasmuch as they would establish a fact at variance with every physiological principle. —Ed.

Bees—Hiving and Swarming.

Mr. Editor,—Sir: As I have assisted in hiving two or three hundred swarms of bees, my experience may be of use to some who are less acquainted with this part of their management. I am well aware that many persons do not keep bees, for the sole reason that they do not know how to hive them.

When I first had the care of bees, it was my practice to make all the noise that I could at the time my bees swarmed, to induce them to light, but I soon became satisfied that the noise was of no use; for I am convinced that it is almost universally their custom, to light in the immediate vicinity of the present stock, if undisturbed and left entirely to themselves.

I have, to my knowledge, had only two swarms leave at the time of swarming. One of these was a swarm that melted down, at which time the bees all came upon the outside of the hive and the contents were removed; yet they never entered the hive, but remained two or three days on the outside and then left for the forest. I accompanied them to their new abode, about one fourth of a mile from the bee-house. They had evidently selected the place, as they went in as fast as they had lit upon the tree.

The other I think left in consequence of there being nothing convenient for them to light upon,—for at this time I had very few trees near my bee-house. This swarm, like the other, moved very slow, so that I walked along with it about half a mile, when it alighted and was hived. This, evidently, had no place selected, for they appeared to be searching all the trees around them for a place, and so numerous were they about the trunks of the trees, that they were very much in our way when hiving.

When the bees have gone up into the hive, it should be immediately let down so as to exclude the light, as I think more swarms are lost from this neglect than all other causes. There is nothing laughable in the practice of making a noise, to induce a swarm to light, yet I do think it is worse than useless. If a swarm does not readily light, and appears to be making for the forest, if not disturbed, it will move very slow and can be easily followed; whereas, if it be followed by noise, throwing dirt, &c., it will move quite fast and consequently cannot be pursued. I am confident, that a person who observes the above directions about hiving, and adopts the practice of not disturbing his bees at the time of swarming, will rarely mourn the loss of a swarm.—*Massachusetts Ploughman.*

Swamp Willow—(*Salex discolor.*)

An important and extensive employment has grown out of the use and cultivation of the willow. Great quantities are imported, while we see it growing wild in swamps and along water courses, from one end of the United States to the other, and almost untouched, although if collected in its native state, or cultivated as in Europe and some parts of this country, it would afford a profitable occupation to the industrious, at seasons of the year when other work would not interfere.

Hoops for casks, are made of willow in Europe, as we see in the wine casks of France and Portugal. Irish potatoes are imported in hampers of the same material, and champagne in willow baskets. Bottles and demijohns come to us covered with willow, and willow is cut and dried to be converted into charcoal, which makes a better article than any other wood for the manufacture of gunpowder.

But of all the uses to which willow is applied, both here and in Europe, that of making baskets of all kinds, and many articles of wooden ware, is the most extensive. It gives employment to many, and might to many more, if our own resources were husbanded, and our own raw material more generally sought, cultivated and used.

Willow and willow baskets are both imported from Holland and France. Most of the baskets manufactured in this country, are made from the imported willow, but some of American growth is also converted into useful articles, as will hereafter be shown. The imported willow is of the osier kind, long, slender and flexible. It comes in bundles, four feet in circumference, or sixteen inches in diameter, and of three lengths. It is sold in assorted parcels, and the purchaser is required to take a portion of each length. The smallest size is from three to four feet long; the middle size five to six, and the third size seven feet or over. The present price of such willow, free of bark and in good condition, in the city of New York, is eight cents per pound. The writer has known it to sell at $1 to $1 25 by the bundle.

Immense quantities of willow baskets are imported from France, but they are all of the smaller and finer kinds of wooden ware made of split willow. Our artizans cannot compete with the French in the manufacture of these kinds of willow work, on account of the very low wages in France, or other cause. There, much of the fine and fancy work is executed by females, while here, willow baskets are wholly made by males, who require higher wages than males or females in European countries. Hence it is, that France and Germany have possession of the American market in the supply and sale of fine and fancy willow-ware, which can be manufactured here by American artists, but they are undersold by foreign workmen. There is perhaps another reason for this state of things. Some years ago, a French merchant now retired from business, informed the writer that he could not conceive how the French willow baskets could be imported and sold so cheap, unless the government was defrauded in the duties.

But on the other hand, our countrymen have exclusive possession of the manufacture of the large, coarse, and bulky articles made of willow, which cannot be imported on account of the space they occupy, and the amount of freight such space would command. The greater part of the willow they use however, is that imported from Holland and France. The trade of making willow-ware is an extensive one, and is principally carried on in our large cities; though of late, it is extending to other parts of the country where the native raw material is abundant and easily procured, or where this and the foreign varieties are cultivated.

Here then we have a trade, an occupation for many of our countrymen, which consumes a great amount of raw material, much of which might be supplied from indigenous growth, or from cultivated plants of native and foreign varieties of willow. There is much to encourage this undertaking, were it more generally known how easily it may be accomplished. The following information was obtained from a person who has a plantation of willows on Staten Island.

Mr. John Reed, of Southfield, in Richmond county, and State of New York, is an Englishman by birth, and has followed the business of cultivating the native and foreign willows for thirty years or more in this country. The farm he cultivates, contained a useless bog of an acre or more, which by ditching and draining, he has converted into a willow plantation, from which he reaps an annual harvest much greater than from an equal amount of land on the best part of his farm. He has the native willow at the head of this article, the Pennsylvania, the Welsh, the Dutch and other varieties which he imported from England. He has another plantation of willows in the adjoining township of Westfield.

Mr. Reed has at different periods imported fifteen varieties of willow of the osier kind from England, but the best kinds raised

there, degenerate here from the nature of the climate. They start well in the spring, but stop growing in the heat of summer, and limb out rough. Two varieties however, grow here as well if not better than in England. One of these is the Welsh, the other known there as the Dutch, with a white bark. These are important facts for those who may hereafter undertake to cultivate willow plants, derived from the experience of thirty years in lat. 40 degrees 30 minutes north.

The American swamp or wild willow, grows all over the United States, of which there are several varieties. The Dutch emigrants who settle in the interior, cut and use it in the manufacture of articles of utility. Some is cut in the neighbourhood of Albany, and sent in bundles to the New York market. The native willow is best for coarse, strong and tight work, but is not adapted for splitting or twisting, qualities which belong in an eminent degree, to the cultivated Welsh willow.

There is a variety of willow cultivated along the Schuylkill and Delaware rivers in Pennsylvania, which is reputed to be the best in this country, for all kinds of work. It is extensively cultivated by the Dutch, who are said to have imported it into that State in the time of William Penn, the original founder of the colony of Pennsylvania. It is known there by the name of the *Green Willow.* Mr. Reed also cultivates the Pennsylvania willow, which he introduced into this State in 1810. Several besides himself, raise this and other varieties of the willow on Staten Island. The green willow grows large, and when properly prepared and dried, is converted into charcoal by Dupont to make gunpowder.

To those who are desirous of undertaking the cultivation of the willow, Mr. Reed can supply cuttings of the best varieties, as he has heretofore complied with orders from Boston, Kentucky, and the interior parts of the State of New York. March and April are the months to procure them. They should be set out in rich land along streams occasionally overflowed, or in swamps, which if too wet, should be ditched and drained.

The yearly crop of willow twigs is cut in March. The cuttings are tied into bundles, and the butt ends placed in the water of the swamps where they grew. They are left there a shorter or longer time, according to the season, and until the swelling of the buds indicates the flow of sap, which loosens the bark, when they are removed and denuded of the bark, which then comes off very easily.

Mr. William Leveridge, a miller on the Great Kills, in Southfield, also has a plantation of Welsh and American willows. The former grows long, slender and smooth, and is well adapted for work which requires it to be split or twisted.—*Cultivator.*

For the Farmers' Cabinet.

Grape Vines--Starting them from Cuttings.

THE following hints would have been more seasonable in our last number, but they were not received till it had gone to press. We trust, however, they may not be lost sight of, but referred to, in the operations of a succeeding spring.

Every one acknowledges the deliciousness of the grape—and the ease with which it may be cultivated is pretty generally understood; yet how few comparatively, avail themselves of the facilities in their power to propagate and enjoy this luxury.—ED.

THIS is the time to plant cuttings for propagating the grape. Many recommend a much earlier period; but from an experience of eight years, the writer is decidedly of opinion that from the middle to the last of April, is the best time for putting them in the ground. The earth has then attained sufficient warmth to urge vegetation rapidly forward: and there will be found no difficulty in the general striking of well kept cuttings. They should be made of ripened wood of the last year's growth, and shortened to two eyes or buds; by no means leaving more, as by doing so, the force of the top or growing bud is very much weakened, by those buds starting which intervene between the root bud and the eye, which is designed to form the plant. The wood should be left about one inch above the top bud, and cut off close to the lower or root bud of the cutting; these taken off at any time between November and March, and buried in the ground of the vineyard or garden, may now be taken up fresh and fine, with the buds very much swollen and ready to start. The earth must be well prepared, by finely pulverizing it, and the cuttings set in nearly upright, with the top bud just at the surface or slightly covered. With cuttings taken from healthy wood, and preserved as we have stated, with two eyes to each, and carefully planted after the buds are well swollen, in the ground where they have been buried, the cultivator will have no further trouble in rearing fine healthy plants: of course the ground must be kept loose and free from weeds—nor must it be neglected carefully to tie up the young shoot to a strong stake or trellis, every few inches of its growth—this last is essential for ensuring a good height: I have had plants from cuttings of the Isabella, Cataw-

ba, &c., thus treated, to grow twelve feet the first season. The disadvantage of planting them in March, is that the ground invariably becomes hard and sodden around the cutting, and it is difficult to loosen it without disturbing the stock, and vegetation is so sluggish that the buds are apt to rot before there is warmth enough to germinate them. This subject is so interesting, and I hope becoming more so, that I should like to make some further remarks in regard to the subsequent management of the vines in a future number of the Cabinet. Every man, in city or country, whether he occupies his land in fee-simple, or merely as a tenant by the year, should stick down a few grape cuttings at the proper season, and our country would soon be stocked with this healthy and delicious fruit. T.

Woodbury, N. J., April 15th, 1844.

The Mule.

"My attention has been but lately directed to breeding mules; and those intended only for my own use. The system adopted is to halter them at four months, and have the males emasculated before six months old; which has great influence on their future conduct, and is attended with much less hazard and trouble, than if delayed until they are one or two years old, as is the general practice. If they are treated *gently*, and fed occasionally out of the hand, with *corn*, *potatoes*, &c., they soon become attached; and when they find that 'every man's hand is not against them,' will have no propensity to direct their heels against him, and soon forget they have the power. In winter they should be tied up in separate stalls, and often rubbed down. By such treatment there is not more danger of having a vicious mule than a vicious horse—and I am decidedly of opinion, that a high-spirited mule so managed, and well broke, will not jeopard the lives or limbs of men, women, or children by any means so much as a high-spirited horse, however well he may have been trained.

"The longevity of the mule has become so proverbial, that a purchaser seldom inquires his age. *Pliny* gives an account of one, taken from Grecian history, that was *eighty years old;* and though past labour, followed others that were carrying materials to build the temple of *Minerva* at Athens, and seemed to wish to assist them; which so pleased the people, that they ordered he should have free *egress* to the grain market. Dr. Rees mentions *two* that were *seventy years old* in England. I saw, myself, in the West Indies, a mule perform his task in a *cane mill*, that his owner assured me was forty years old. I now own a *mare* mule *twenty-five years old*, that I have had in constant work twenty-one years, and can discover no diminution in her powers; she has within a year past often taken upwards of a ton weight in a wagon to Boston, a distance of more than five miles. A gentleman in my neighbourhood has owned a very large mule about fourteen years, that cannot be less than *twenty-eight years old*. He informed me a few days since, that he could not perceive the least failure in him, and would not exchange him for any farm horse in the country. And I am just informed, from a source entitled to perfect confidence, that a highly respectable gentleman and eminent agriculturist, near *Centreville*, on the eastern shore of *Maryland*, owns a mule that is *thirty-five years old*, as capable of labour as at any former period.

"From what has been stated respecting the longevity of the mule, I think it may be fairly assumed, that he does not deteriorate more rapidly after *twenty years* of age than the horse after *ten*, allowing the same extent of work and similar treatment to each. The contrast in the mule's freedom from malady or disease, compared with the horse, is not less striking. Arthur Young, during his tour in Ireland, was informed that a gentleman had lost several fine mules, by feeding them on wheat straw *cut*. And I have been informed that a *mule-dealer*, in the western part of New-York, attributed the loss of a number of young mules, in a severe winter, when his hay was exhausted, to feeding them exclusively on *cut* straw and *Indian-corn* meal. In no other instance have I ever heard or known of a mule being attacked with any disorder or complaint, except two or three cases of inflammation of the *intestines*, caused by gross neglect in permitting them to remain exposed to cold and wet, when in a high state of perspiration after severe labour, and drinking to excess of cold water.

"From his light frame and more cautious movements, the mule is less subject to casualties than the horse. Indeed it is not improbable that a farmer may work the same team of mules above *twenty years*, and never be presented with a *farrier's* bill, or find it necessary to exercise the art himself.

"Sir John Sinclair, in his 'Reports on the Agriculture of Scotland,' remarks that 'if the whole period of a horse's labour be fifteen years, the first six may be equal in value to the remaining nine; therefore a horse of ten years old, after working six years, may be worth half of his original value.' He estimates the annual decline of a horse to be equal to fifty per cent. on his price every six

years, and supposes one out of twenty-five that are regularly employed in agriculture, to die every year: for insurance against diseases and accidents. He considers five acres of land, of medium quality, necessary for the maintenance of each horse, and the annual expense, including harness, shoeing, farriery, insurance and decline in value, allowing him to cost $200, to exceed that sum about *five per cent.*, which is the only difference between the estimate of this illustrious and accurate agriculturist, and that of a respectable committee of the *Farmers' Society of Barwell district*, South Carolina, who in a report published in the Charleston Courier, of the 23rd of February last (1825,) state, that 'the annual expense of keeping a horse is equal to its value.' The same committee also state, that, 'at four years old a horse will seldom sell for more than the expense of rearing him.' That 'the superiority of the *mule* over the horse, had long been appreciated by some of their most judicious planters; that two mules could be raised at less expense than one horse; that a mule is fit for service at an earlier age, if of sufficient size; will perform as much labour; and if attended to when first put to work, his gait and habits may be formed to suit the taste of the owner.' This report may be considered a most valuable document, emanating, as it does, from enlightened *practical* farmers and planters, in a section of our country where we may suppose a horse can be maintained *cheaper* than in *Maryland*, or any state further north."—*Skinner on the Ass and the Mule.*

Horticultural Beans.

To the Editor of the Farmers' Cabinet,

Accompanying this is a package of *Horticultural beans*, imported from Boston a few days since, with a view to their gratuitous distribution, and under the impression that they were not found in our market; I have since met with them on sale, however, at the warehouse of Landreth & Munns, No. 65 Chesnut street; but as these gentlemen assure me they are but little known in this vicinity, and as the imported ones will not be the less likely to thrive well from having changed their locality, I should be glad, if the editor will take the trouble to do so, to have them distributed among such cultivators as may wish to propagate them. The writer has cultivated them many years, and has found them uniformly hardy and prolific, bearing till frost cuts them off. For a string bean, I know of no other that equals them for tenderness, richness, and delicacy of flavour; the pod is never tough when properly boiled; even when the bean within is of full size it still has a marrowy tenderness. What is called the Wildgoose bean, comes nearest to it in tenderness and delicacy, but this is not hardy, nor is it a good bearer. The Red Cranberry bean is also perfectly tender, and a pretty good bearer, but lacks delicacy, and is positively strong. The Speckled Valentine, or Thousand bean, so abundant in our market, under the name of "Snap-short," has a tender pod, and no bad qualities when very young, and withal is an excellent bearer; but if a single handful in the mess be a week too old, they are tough, and the mess is spoiled—when gathered thus young, they have moreover, a green herbage taste, and wholly lack the substance and richness of a good string bean. The "Horticultural" is a pole bean, but it will well repay the labour of sticking, by hanging in handfuls to the height of six or eight feet—a single grain or two of corn in a hill, answers tolerably as a substitute for poles where the latter, from any cause, are not attainable. Index.

Philadelphia, Fourth mo. 23rd.

Timber on the Prairies.

It is a great object with the farmer on the prairies, to turn his attention as early as practicable, to the cultivation of timber on his own land. The locust is thought to be among the most valuable for this purpose, both on account of its rapid growth and durability. Abram Smith, a writer in the Prairie Farmer, says that he believes no kind of timber will produce as many, or as durable rails in the same number of years, on the same number of acres, as the *locust*. The seed should be scalded before they are planted. In planting, he says "Drill them in a shallow furrow and cover with a plough—if in June, about two inches deep, if earlier, cover shallower, if later, cover deeper. As to the width between rows, I think the best I have seen are about ten or twelve feet apart. Cultivate potatoes, corn, or tobacco between for two years; then sow oats for the third year—let the hogs harvest it, and leave the straw on, which will be a great help to the trees. The fourth year you may cut several hundred stakes from each acre; the fifth year you may cut five hundred (pole) rails from each acre, and the same number each year forever thereafter. And if you have planted your timber exactly where you want it, I presume you will not find fault with it for 'forever throwing up shoots,' or because 'it can never be exterminated.'

Root Culture.

A paper on the culture of Roots, read before the "Practical Farmer's Club" by one of its members, at their March meeting—Wilmington, Del.

No crop is more important to the farmer than the Root Crop, and yet how very seldom in this section of country do we see it sufficiently appreciated. At the head of this valuable family, stands the Ruta Baga or Swedish Turnip, being first in my opinion, for the following reasons; the seed is put in the most readily, less liable to injury from the insect when young, requiring less expense in the culture, not injured by the early frosts, keeps better through the winter, and last, though all important, yields the most certain crop.

I have been cultivating them for the last 13 years, from one to five acres annually, and like all other crops, with different success, but never until this last year an entire ailure, when from some cause almost all our root crops were lost; nor do I think I have ever raised much over 600 bushels per acre, taking the *whole crop* together; no doubt by selecting a few square yards of the best, as is too often done in reports of crops, and making the calculation at that rate per acre, I might have doubled this amount. Perhaps it may have been from want of proper culture, manure, or some other cause, that I have not obtained a larger yield, for we frequently see statements of crops reaching from 1000 to 1500 bushels per acre. At page 61, Vol I. of the Farmers' Cabinet, you will find the statement of a crop of one acre grown in this county, from which two tons of hay were cut before planting; then $58 worth of manure spread on it, which, with the preparation and labour with the crop, &c., brought the expenses of it to $83 55 cts., still the yield handsomely remunerated it, being 850 bushels, which at 16 cents per bushel, the price obtained for part of them, the balance being consumed on the farm, makes $136 00—two tons of hay sold for $34 00, and 4 tons of tops estimated at $8 00, makes a total of $178 00, from which deduct the expenses above, and we have a clear profit of $94 45 from one acre; besides which the land is left in fine condition for any other crop to follow.—Also at page 171, Vol. II. same work, is an article from Mr. John Sandford of New York, who says, "his business is to work, not to write," but he gives us his experience with the Ruta Baga in a very satisfactory manner; he planted three acres in drills on the 26th and 27th of June, hoed but twice, and the yield was 3000 bushels, being 1000, bushels per acre—he adds, that "he thinks they draw more nourishment from the atmosphere, and less from the ground than any other vegetable; leave the ground in finer condition, and cannot be too highly valued." He also adds, "let all raise according to his wants and means of feeding, depending on his own market, and omit raising a portion of other produce, which costs him five times as much both in labour and land." The Rev. H. Colman obtained a premium in 1830 for his crop of 903 bushels per acre; he "thinks the labour not as much by one-third as required for the Potatoe crop," and that "three years experience has increased their value very much, as food for either fatting or store cattle, in his estimation."

Mr. E. Tilden of New Lebanon, who has a flock of 1000 of the finest Saxony sheep, says, "we think Ruta Baga decidedly preferable to any other roots, and we raised about 3000 bushels last season."

So we might go on to multiply without number, accounts of the great value of this excellent vegetable; but let every one give it a trial for themselves, and I think I can safely predict, that having once made use of them, they will never omit having a good supply on hand. My method of raising the crop has been to have the ground in as mellow a state as possible, by a free use of the plough and harrow; then to throw it into ridges about 30 inches apart; spread the manure in the furrows, then split the ridges, throwing it back again into the furrow and covering the manure. I prefer this plan of manuring to putting it on broadcast, for with the latter mode (without it should be very short) it interferes more or less with the drill, for as a matter of course, in ridging the ground after ploughing in the manure, you cannot avoid throwing it up again, which brings the manure on the top of the ridge. A less quantity will also answer, as the roots strike immediately into, and have the whole benefit of it. I have a very light roller for one horse, to which I attach the drill, which finishes the operation, as the roller going before the drill levels it sufficiently for the seed. About the last of June I consider the proper time for putting them in, and I prefer doing it at two different times, about two weeks apart, as you will not then be so much hurried in working them, giving you time to get through with the first planting before the next is ready—it is also much better to put the seed in the same day you ridge the ground—with the drill it takes about three-fourths of a pound of seed per acre. As soon as the plants are up, go through them with the cultivator, and when they are large enough to be safe from the fly, go over them

with the hand hoe, thinning them from 10 to 12 inches distance, and hoeing over the strip not worked by the harrow; keep the cultivator frequently at work and give them a second hand hoeing, so as not to allow a weed to start, and if the season is not very unfavourable, I will almost be willing to guarantee you at least 600 bushels per acre. Postpone gathering them as long as the season will permit, the early frost does not injure them. My plan has been for each man to pull two rows at a time, cutting off the smaller roots and top, and two of them throwing the roots together, in the intermediate furrow, making four rows together, which allows room for a cart to pass between in gathering them; they may either be kept in a cellar or buried in the field, as is often done with the potatoes—do not keep too warm, nor on the contrary, allow them to be frozen, and they will be firm and good until May.

In feeding, I cut them with a knife made by two blades crossing each other at right angles, fixed on a long handle, which makes very expeditious work, and is superior to any of the many machines I have ever seen invented for that purpose. Many object to feeding them to milch cows on account of imparting to the butter an unpleasant taste; if given to them but once a day there is no danger of that being the case, at least I have never found it so.

Beside the saving to your corn crib you will also find your stock looking much better from the use of them, as it keeps them in a much more healthy state than when confined the whole winter on dry food, they also eat their hay and other provender much better from having a change.

The Sugar Beet, Mangel Wurtzel, Carrot, Potatoe and many others of this valuable family, all have their advocates and all are excellent, *only be sure to raise some of them*, which ever you prefer. I have given my experience with my favorite, and shall be gratified if I can induce some who have never yet done it, to give them a trial.

If you do not wish to go to the expense of a drill, you can put them in very expeditiously, by levelling the ridge with a rake, making a small furrow with a stick, and sprinkling the seed in it from a bottle, having a quill through the cork, which can be regulated by the finger being kept on it, and then covered with the back of the rake.—*Delaware Journal.*

The Editor has found in his own practice, that a very simple and convenient article where a drill is not used, may be obtained at a tin shop for two or three shillings. A tin cylinder, say an inch in diameter, four feet long and flaring, that is, funnel shaped, at the top, may be drawn along the furrow by the left hand, with the funnel end resting against the breast of the operator. The seed may thus be put in the tube with all necessary regularity—with great ease, and without the fatigue of stooping.—Ed.

Bees.

Bee hives frequently become foul, from dead bees and the perspiration from the bees, which affects the health of the whole swarm, and makes them dull and sluggish. In the spring the bottom board should be thoroughly cleaned and whitewashed, and the lower edges of the hive should be whitewashed, and the inside of the hive up to the comb, and the same operation on the outside of the hive will be useful in promoting the health of bees, protecting the hive against the rain and hot sun, and in filling up all cracks, and depriving the moths of any good place for laying their eggs.

We have practised mixing fine salt with whitewash, plentifully, even more than will dissolve, and both the lime and salt appear to be grateful to the bees, which often eat it freely. With this course some sluggish swarms will immediately become active. In whitewashing our hives several times in a year, using salt freely, we have never been troubled with the bee-moth, though mostly keeping bees, and a part of the time in sections of the country where the moth has generally been very destructive.

We cannot say postively that lime and salt will prevent the operations of moths, but if properly attended to, and every crack and crevice about the hive, the lower edge, inside, and bottom board be well covered with whitewash, we have no doubt that it will greatly impede, if not wholly prevent the destructive effects of moths.—*Boston Cultivator.*

For the Farmers' Cabinet.

Solution of Copperas, to save Seed.

Mr. Editor,—As there is a general complaint of the injury done by the myriads of insects which infest our gardens and orchards, it becomes the duty of every person who has tried to reduce the number, or prevent the ravages of these pests, to give the result of his experiments to the agricultural public; and as I am desirous of contributing my mite to the stock of information, in which all, who cultivate the soil are interested, I take leave to state what I have tried with success. In the spring of last year I planted about two hundered hills with pumpkin, squash, melon and cucumber seed, very few of which came up, the rest were destroyed

by ants and wire worms, which I ascertained by careful examination. I replanted the hills with fresh seed, but with no better success; for it shared the same fate as that first planted. Being apprehensive that I should lose the season for these articles, I resolved to make the seed less palatable to the depredators; and made a pretty strong solution of copperas,—say a table spoonful to a pint and a half of water, in which I soaked pumpkin, squash, melon and cucumber seed for twelve hours; these I planted, and although the weather continued dry, they came up early, grew luxuriantly, and so far as I could judge, not a single seed was touched by any description of vermin. Now here is an experiment worth trying, as it may done at an expense of about one cent, and will save seed and the labour of replanting it.

J. T.

Hamilton township, Mercer Co., N. J.,
28th March, 1844.

Pennock's Drilling Machine.

Wheatland, Del., April 17th, 1844.

Moses and Samuel Pennock;

Esteemed friends:—According to promise, I avail myself of this favourable opportunity to advise you of the performance of the Seed Drilling machine, which I purchased of you last fall. There were several fields of wheat put in with it in this neighbourhood, besides my own. Some of our most enterprising farmers tried it; Dr. Noble, for instance, Col. Clayton, G. W. Carsner, W. Bowman &c.; altogether more than two hundred acres, and it all looks well, having stood the winter admirably. Encouraged by the statement of James Gowen, Esq., in the Cabinet for the present month, I concluded this spring to plant my entire crop of corn with it. I witnessed the growth of Mr. Gowen's about the last of June, his plan of planting in drills leaving the stalks one foot apart, has been eminently successful.

We commenced planting corn with it on Saturday the 13th inst., and on that day planted 17 acres; on Monday the 15th, we put in 23 acres; on Tuesday the 16th, starting somewhat earlier than usual, we planted 30 acres; and on the next day we finished 23 acres more, making in all 93 acres planted in four days by one hand with the help of your machine and one horse. The rows are four feet and a half apart, and the corn dropped about six inches apart in the rows, which I intend to thin out to one foot or 18 inches, leaving but one stalk in a hill. The machine planted about one peck of seed to the acre, and performed its work entirely to my satisfaction, giving no trouble in its management.

If the machine could be so modified—and I think there would be no difficulty—as to enable it to drop with the corn a portion of some fertilizing agent, such as ashes, plaster, poudrette, or guano, a great desideratum would be attained, as the stimulus thus given to the young plant would so force its growth as soon to place it beyond the reach of the worm, and other enemies of the insect tribe, which, after all, are the greatest with which the farmer has to contend.

My object in making this communication thus early, is to give you time to test the experiment the present season, if the suggestion for using the manure, should meet your approbation.

Respectfully yours, &c.,

John Jones.

The foregoing letter has been kindly furnished us by the writer, and it is only in corroboration of the opinion we have repeatedly heard expressed in relation to Pennock's machine. We would much like to have a cut of it for the Cabinet, accompanied with a description.—Ed.

Fruit.

It is matter of surprise to witness the indifference manifested by many farmers on the subject of fruit, while in other respects their farms were well managed; an acquaintance somewhat advanced in life was asked, why he did not plant more fruit trees! The answer was, he had enough to answer his purposes, and the young folks must do as he had done, and look out for themselves. This is a false principle—an immorality: it is a violation of the golden rule: it is not "doing unto others as we would that they should do unto us." If our predecessors had transmitted enjoyments to us, we should do the same to those who are to come after us. Not only those who are engaged largely in farming, are neglectful in this respect, but what is more surprising, those who possess small lots of land are too prone to follow the example of the farmer. Every one who has a small plot, can plant a few trees, and in a short time he may eat the fruit of his own labour.

In regard to the varieties of fruit most advisable to cultivate, farmers must be governed by circumstances. The most important is the apple, and those residing at a distance from market, should cultivate the winter fruit; while those living near, might find it more profitable to cultivate such fruit as was from time to time maturing through the season.—*New England Farmer.*

William Penn said, that *passion* may not unfitly be called the *mob* of the man, which commits a riot upon his reason.

For the Farmers' Cabinet.

Book Farming.

Mr. Editor,—It is an old saying, which has been handed down from father to son, that "Books and learning never make farmers." We would ask those who have an aversion to "book farming," to read the remarks of Judge Buel, which no doubt are familiar to most of your readers, and which he made only a few weeks before his death. "Bred to a mechanical business, I took up agriculture more than twenty years ago, as the future business of my life; without the pretensions or conceits which we are all apt to acquire in the long practice of business, I began farming with a consciousness that I had every thing to learn; and that the eyes of my neighbours would be quick to detect faults in my practice. I at once sought to acquire therefore, a knowledge of the principles of my business, and of the practice of the most enlightened and successful farmers. These I found in books and agricultural periodicals, and by these I have been greatly benefited. Although it does not become me to herald my success, I will venture to say, to encourage others, and particularly the young, in the work of self-instruction and improvement, that my lands, which are light and sandy, and which cost in an uncultivated state thirty dollars an acre, are now worth two hundred dollars an acre for farming purposes; or in other words, that the net profits of their culture exceed the interest of two hundred dollars an acre."

Let those who are opposed to educated farmers, or in other words, those who think persons designed to be farmers need have hardly any education, seriously reflect before they propagate such an opinion, upon the injurious tendency of it. The avocation of agriculturists is as ennobling, and beautiful, and healthy as any of the various pursuits of men.

Learning has done wonders in the world; it has reclaimed barren wastes, where scarcely a blade of grass has grown, and has covered them with abundant harvests; it has in many places, literally made the wilderness and solitary place glad, and the desert to bloom and blossom as the rose; it would seem as if it was making almost every thing subservient to the will of man.

Let the farmer then double his diligence in the acquisition of knowledge pertaining to his calling, and by his superior intelligence secure to himself a vantage ground, which neither low prices, nor the rise and fall of stocks will be able to deprive him of. In every part of his business, instead of going blindly on as his fathers may have done for generations before him, let him bring into active service, the suggestions of an intelligent and well informed mind, and he cannot fail to derive advantages from it, commensurate with the skill employed. E. B. Jr.

Uniontown, Pa., April 13th, 1844.

Diminution of the Wheat Crop.

At a meeting of the New York Farmers' Club, held on the 15th ult.,

President Tallmadge called the attention of the club to a subject of great interest to our country. I beg your attention for a minute or two, said he: it is our wheat crop: its greatly diminished yield per acre! We wish to put this idea forward! There is a gradual deterioration in the crop of this state! We have serious cause to apprehend that this falling off is both in quantity per acre and in quality. Look back to the crops of our soil when young and vigorous! You behold an average of thirty-six bushels per acre. Some think that too high. But it was greatly beyond our late yields. My object is to draw attention to it, that we may induce better culture! Our counties must have a better treatment of the wheat fields! I wish that rather than assertions on this point, we shall cause full inquiries to be made, and to arouse attention to so important a matter. The average crop per acre of our river counties is not over ten or twelve bushels, and of our state not more than thirteen or perhaps fifteen. Agricultural chemistry will demonstrate what is annually lost by our unwise culture. A twentieth part of the richness of our soil is annually lost by our improper methods. This is injustice to our soil! Returning nothing to it. We are following the diminishing planter in Virginia, and shall soon shrink to his *seven bushels per acre!* Our rising generation are migrating from the worn out fields to the new lands of the West! I say to you—that we must *mend or migrate!* Every village, town, city, manufactory, &c., can furnish the manure with proper saving and knowledge, to preserve lasting fertility in our fields. Their dirt, offal, salts, ashes, &c., are all available for that great and indespensable service. The accumulated filth of our city, if it was faithfully applied to vegetation, is abundantly sufficient to enrich soil enough to feed our whole population. There is an extensive manufactory of potash at Lake Champlain, and the ashes thrown into the lake in vast quantities are sufficient if duly applied, to revive the exhausted fertility of the adjacent country. Such a transgression as this falls immediately within point blank jurisdiction of a Grand Jury!

The bark thrown away by our tanneries would with proper treatment, add vastly to the fertility of our lands. Treated with lime it renovates the soil.

Dr. Stevens,—I was recently in Albany. Respectable citizens there stated, that some of our Western land which formerly gave thirty-six bushels of wheat per acre, now yields twelve. Some say the larger crop was but twenty-eight. But it was admitted beyond all doubt, to have fallen in these great proportions. We are going on the old Virginia system, and if we follow it out, we must move. As to our Long Island, it is not so bad. But it is time we should know whether we are not now living on our *capital*, instead of the *interest*. England, by proper culture, is improving instead of deteriorating. Our people have no alternative but to *mend or move*. This Club owes it to the country to inquire and proclaim the truth on this important subject. It must be done by both scientific and practical men. Let a committee of inquiry be appointed to ascertain from societies and from individuals, the past and the present condition of production.—*N. Y. Farmer and Mechanic.*

For the Farmers' Cabinet.

Measure for Milk.

To the Editor:—In looking over the columns of the Cabinet, I observed under the head *Wonderful Cow*, No. 8, page 239, an account of one that belonged to a Mr. Barrett, of Northampton, Mass. "She was milked for two weeks every eight hours; at each milking yielding a pail full, holding ten quarts,—the weight of the milk averaging daily 49½ pounds." This account induced me to compare the statement with a calculation I had recently made, which led me to the conclusion, that there must be some mistake in the account, or else with myself, in not knowing by what kind of measure milk should be reckoned; and I thought it might not be amiss to have it corrected in the Cabinet. The only authority I have had reference to, is a system of Arithmetic by Nicholas Pike, A. M., published in Massachusetts, in 1799, this author states, "that milk is sold by ale or beer measure," of 282 cubic inches to the gallon: now if this is the *true* milk measure—and admitting the specific gravity of milk to be the same as pure water—and it probably is somewhat greater, then the weight of his 30 quarts of milk would have been 76, instead of 49½ pounds. And if his "pail" was measured or compared by wine measure, of 231 cubic inches to the gallon, in that case there should have been 62½ lbs. instead of the 49½. But on the other hand, if his weight is rightly given, then his measure would seem to have been about one-fifth *smaller than wine measure*. Now I apprehend that much ignorance exists in regard the capacity of the true milk measure; and think if the contents of the *legal milk measure*, which is probably uniform throughout the United States, was ascertained and published, we would be better able to form a correct judgment of the quantity reported to have been obtained in any given case: as in the present one, where 30 quarts of milk are represented as weighing only 49½ pounds, which would only be about 185 cubic inches to each gallon said to have been given, instead of 282, as given by the author above quoted, as the true milk gallon, a difference of about one-third. Now whether the true milk measure be the same as beer measure of 282 cubic inches, or about 10 lbs. to the gallon, or the same as the wine measure of 231 cubic inches, or about eight lb. six oz. to the gallon, or whatever else may be; it is desirable the fact should be known, and when the number of cubic inches contained in the milk gallon is ascertained, we can calculate its *weight;* and knowing *that*, can at any time measure our milk by the application of the steal-yard to the bucket, with as much precision and more convenience, in a general way, than by any other means.

Respectfully, Amos Preston.

The specific gravity of milk is about 3 per ct. greater than that of water. The imperial gallon of 277,274 cubic inches, is perhaps the correct milk measure: though there is so much uncertainty and unsettlement in relation to weights and measures, and that we are at a loss to speak advisedly in the case. The elaborate reports of John Quincy Adams, and F. R. Hassler, whatever light they may have thrown on the subject, do not put it at rest. Congress only can do this. If we take 10 lb. avourdupois of distilled water, which is the imperial gallon, containing 277,274 cubic inches for our milk measure, and add three per cent. for the greater specific gravity of milk, we shall find the 30 quarts yielded per day by the Northampton Cow, would weigh 77¼ lbs. instead of 49½ lbs. So that, as appears from the foregoing letter, whether we make use of the imperial gallon,—the English wine gallon of 231 cubic inches, or that for beer of 282, we find the weight of 49½ lbs., does not correspond with any of them. To reconcile this, we may suppose the milk was measured while warm, and in the froth, which would considerably increase the number of quarts. The weight however of 49½ lbs. would ascertain the true quantity.—Ed.

Let every man who owns a patch of soil learn its capabilities, and use them to the utmost, and the mass of the country will soon be relieved. We are designed for an agricultural people; but our agricultural knowledge and skill are far behind our mechanical.—*Farm House of the 19th century.*

FLOWERS AND SHRUBS.—Why does not every lady who can afford it, have a geranium or some other flower in her window? It is very cheap—its cheapness is next to nothing, if you raise it from seed; or from a slip; and it is a beauty and a companion. It was remarked of Leigh Hunt, that it sweetens the air, rejoices the eye, links you with Nature, and is something to love. And if it cannot love you in return, it cannot hate you; it cannot utter a hateful thing, even if you neglect it; for, though it is all beauty, it hath no vanity; and such being the case, and living as it does, purely to do you good and afford you pleasure, how will you be able to neglect it! We receive in imagination the scent of these good natured leaves, which allowed you to carry off their perfume on your fingers; for good natured they are, in that respect, above all other plants, and fitted for the hospitality of our room. The very feel of the leaf has a household warmth in it—something analogous to clothing and comfort.

An American Herd Book.

CATTLE breeders throughout the Union, will not fail to give attention to the following work. We have no doubt it will be well edited, and so conducted as to do justice to the subject.—ED.

THE inconvenience arising from the want of a work of this kind, is already greatly felt in the United States; and with the rapid multiplication of our herds, is continually increasing. There may now be estimated, at least two thousand thorough-bred Short Horn cattle on this side the Atlantic, distributed in the hands of perhaps five hundred different breeders. These animals, in most cases, have been selected from among the best herds in England, and imported at great expense; and their descendants widely disseminated into every State of our Union, and the Canadas. Strict attention has been given to their breeding, and great care bestowed to maintain their original excellence. The climate and soils of America have proved congenial to their growth, and from the rapidity with which they have multiplied, and their present comparative cheapness, we may anticipate that but few further importations will be made from abroad. Still, the decided advantages conferred upon one of the most important branches of our agriculture, by the introduction of the Short Horns into this country, have distinctly established them as a race to be perpetuated in their purity; and the progressive improvement in American husbandry, is a sufficient guaranty that they will hereafter maintain their exalted character in elevating the standard of American cattle.

So important was it esteemed by the Short Horn breeders of England, to establish and record the lineage of their unrivalled herds, that in the year 1822 the first volume of Coates' Herd Book was published, containing the pedigrees of over 2,500 animals; and so strongly has the public mind sanctioned the utility of the work and its continuance, that three successive supplements have from time to time been issued, and another is now in the press, embracing altogether, a list of probably 12,000 cattle.

In the great mass of these, the American breeder has little interest; although, from the absence of a domestic record, many of our citizens have encountered the inconvenience and expense of transmitting a list of their herds to England for registry. A moment's reflection will convince us of the absurdity of a perpetual dependence upon foreign records for the pedigrees of American stock; and the great expense of obtaining the entire English Herd Book, comprising five large volumes, at a cost of not less than forty dollars, are subjects not unworthy of consideration; add to this, the probability of errors in printing the registry at such a distance, where corrections can hardly be made, together with the possession of no greater assurance for the integrity of the records than may be found at home, and the propriety of at once establishing an American Herd Book, will be apparent.

A work of this kind has long been agitated by various gentlemen connected with cattle breeding in America; but no one has hitherto ventured the experiment, although earnestly called for by a numerous body of breeders.

Its demand then being connected, it remains to be seen whether the public will sustain an effort to accomplish it. It is a labor involving industry, research and discrimination; and in its proper execution, demanding no ordinary degree of firmness and decision in resisting undue admissions within its pages. It may, perhaps, be deemed an act of presumption in the undersigned to assume this responsibility; but he can only answer that *some one* must undertake it, if it be undertaken at all; and having been a considerable breeder of Short Horns for many years, and more or less conversant with most of the principal herds of this country, he considers his observation and experience, together with a familiar acquaintance with the volumes of the English Herd Book, somewhat of a guaranty for the performance.

Be it remembered however, that the task is not assumed without mature reflection, and

after the repeated solicitations of several distinguished breeders in different sections of the United States; and if pursued, the co-operation of skilful and experienced individuals will be rendered. But for the integrity of its execution, the undersigned will be solely responsible.

As this work is not proposed in the anticipation of private gain, so neither will it be expected to involve pecuniary loss. It is therefore necessary to ascertain the extent of encouragement which will be given to it before proceeding; and for that purpose the undersigned respectfully asks the publication of this notice by the agricultural press generally in the United States and the Canadian provinces, for which, together with a copy of the paper containing it, directed to him, he will present the proprietor with a copy of the work, if prosecuted.

He also requests all who approve the plan to write him, *post paid*, if by mail, previous to the first day of July next, stating the number of animals they propose to register, together with the number of copies they will take. If a sufficient number of responses are made to encourage the undertaking, the work will proceed; if not, it will be given up. The determination of going on with it, will be announced through the agricultural papers as early as September next, and those proposing to patronize the work will then be notified to forward their respective registers of cattle immediately, together with the necessary evidence of their correctness, that it may be issued as early as the spring of 1845.

As it is not expected that the sales of the book will more than pay for the printing and publication, a small charge for admission will be required, say from twenty-five to fifty cents for each animal, as the number may determine.

Well executed portraits of animals, the plates being furnished by the owners, will be inserted with the register.

The *full* pedigree of each animal will be given, running back through its whole extent in the English Herd Book, if thus furnished, together with its reference numbers, so as to render the American Herd Book a *perfect* record of every animal's genealogy.

An index containing the name and residence of every breeder whose cattle are registered, will be inserted.

Another index will contain the name of every animal and the page on which it is recorded.

The work will be prefaced with a full and accurate history of the Short Horn breed of cattle, drawn up from the best English authorities, together with a particular account of their extraordinary productions both in the dairy and at the shambles.

It will be executed as nearly as possible, in the style of the English Herd Book, well bound, and delivered to subscribers at a price not exceeding three dollars a copy, either at New York, Albany, or Buffalo, at their option.

Lewis F. Allen.

Black Rock, N. Y., April, 1844.

THE FARMERS' CABINET, AND AMERICAN HERD-BOOK.

Philadelphia, Fifth Month, 1844.

One of our friends at Washington, has forwarded a Report on the means of improving the management, cultivation and fabrication of *Hemp*, translated by order of Congress, from the Russian, by P. Von Schmidt.

To the planters in the rich Hemp growing districts of Kentucky, Missouri, &c., the Report will be examined with lively interest. The translator, besides being a native of Riga, in Russia, famous for its superior production of this article, has been for many years, successfully cultivating it in the valley of the Wabash, in Indiana; and he believes that if properly pursued and encouraged, the time may not be very distant, when, instead of paying millions of dollars to foreign countries, for supplies necessary for our navigation, we may become exporters of Hemp to a considerable extent. We have in the office a remarkably fine specimen raised at Ashland.

We hear a good deal said about the Corn laws of England, and of their operation. For the very interesting pamphlet in relation to them, a part of which appears in the present number, we are indebted to the kindness of Dr. Mease.

Willis Gaylord, senior editor of the Cultivator, died at his residence, Limerock Farm, Onandago co., New York, on the 27th of Third month last, after an illness of little more than four and twenty hours, in the 51st year of his age. It was in the ordering of Divine Providence, that from his boyhood he should struggle with severe bodily infirmities, which shut him out from the more active pursuits of life. With a mind, however, of more than ordinary strength, and more than ordinarily well disciplined, it was his delight to encounter the obstacles which physical weakness placed in his path. It was his privilege, too, to surmount them: and in dispensing the rich stores of knowledge which he had acquired, he rendered himself extensively useful to others. As an agricultural writer, he was well known and highly respected. If we might do so without a charge of obtrusiveness, this opportunity should be embraced to acknowledge that we sincerely sympathize with the editor of the Cultivator, as well as with the family of the deceased, in their bereavement. We shall feel in common with the whole agricultural community, that we greatly miss the labours of one, to whom we have heretofore been fond of looking for instruction.

We keep on hand at this office, and will supply our friends with Agricultural works generally. Among which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price	$4 00
YOUATT ON THE HORSE, with J. S. Skinner's very valuable Additions;	2 00
BRIDGEMAN'S GARDENER'S ASSISTANT;	2 00
THE AMERICAN POULTRY BOOK;	37½
THE FARMER'S LAND MEASURER;	37½
DANA'S MUCK MANUAL;	60
Complete sets of the FARMERS' CABINET, half-bound, 7 vols.	5 75
BEVAN on the HONEY BEE,	31½
JOHNSTON'S Agricultural Chemistry,	2 25
LIEBIG'S AGRICULTURAL CHEMISTRY,	25
" ANIMAL CHEMISTRY,	25
" FAMILIAR LETTERS,	12½

As well as his larger works on Chemistry and Agriculture.

Subscriptions will be received for Colman's Agricultural Tour in England and on the Continent.

☞ We are prepared to bind books to order.

We have received from Saxton & Miles, New York, a copy of the "Farmer's Mine, or Source of Wealth, being a compilation, with the addition of new and important matter," in relation to the subject of manure, by Henry Heermance. To which is added "Productive Farming," by Joseph A. Smith. It is for sale at Lindsay & Blakiston's, and also at this Office.

To increase the manure heap, and to make a profitable application of it, as well as of artificial manures, are subjects which as nearly interest our farmers, as any other of their every day duties—and if we may judge from the abundance that is written—and by presumption, read, in relation to these matters, farmers are becoming well aware of this. The volume before us makes liberal drafts from valuable publications, and contains a large amount of useful information. Of the Essay on "Productive Farming," we have heretofore spoken.

☞ AGRICULTURAL MEETING.

We have been requested to mention that the stated meetings of the Philadelphia Society for promoting Agriculture, are held at their room, Washington Hall, South Third street, the first fourth-day, (Wednesday,) of every month.

"Every man his own Cattle Doctor: containing the causes, symptoms, and treatment of all the diseases incident to oxen, sheep, and swine; and a sketch of the anatomy and physiology of neat cattle; by Francis Clater. Edited, revised, and almost rewritten, by William Youatt, author of "The Horse," &c., with numerous additions, embracing an Essay on the use of Oxen, and the improvement in the breed of Sheep, &c., by J. S. Skinner, Assistant Post-master General; with numerous cuts and illustrations."

This work has just issued from the press of Lea & Blanchard, of this city, and is for sale at this Office, price 50 cents. Its comprehensive title shows very fully, what kind of matter may be looked for among its contents, and the names of Clater, Youatt, and Skinner, give pretty strong proof that all will be well arranged and useful. The diseases common to horned cattle, sheep, and swine, are judiciously delineated, and their mode of treatment pointed out. The Essay on the use of Oxen, by our friend Skinner, is well timed, and we hope will have the influence it deserves in persuading our farmers in many situations, to diminish the number of their horses, and to increase their oxen.

The following premiums will be awarded at the intermediate meeting of the Pennsylvania Horticultural Society in this city, on the 4th of next month, viz:

For the best Rocket Larkspurs, not less than twelve to be exhibited, $2.

For the best Strawberries, not less than two quarts, of a named variety, to be exhibited, $2.

For the next best Strawberries, not less than two quarts, of a named variety, to be exhibited, $1.

For the best Cherries, not less than three pounds, of a named variety, to be exhibited, $2.

For the best Turnips, grown in the open ground, not less than two dozen to be exhibited, $2.

At the Stated meeting on the 18th of next month:—

For the best garden Roses, twelve named varieties to be exhibited, $3.

For the next best garden Roses, twelve named varieties to be exhibited, $2.

For the best Ranunculus, eight varieties to be exhibited, $5.

For the next best do. do. do. $3.

For the best Pinks, six named varieties to be exhibited, $3.

For the best American Seedling Pink, $2.

For the best Artichokes, not less than six in number, $3.

For the best foreign Grapes, raised under glass, not less than three bunches, $5.

For the next best foreign Grapes, raised under glass, not less than three bunches, $3.

For the best named Cherries, not less than three pounds, $2.

We are again indebted to H. L. Ellsworth, the Commissioner of Patents, for his elaborate Report for 1843. Such a mass of matter relating to the successful industry of our country—to its agriculture more particularly—collected and arranged with great care, cannot fail to be highly useful and gratifying to the public. Had Congress ordered 50,000 instead of 15,000 copies printed, the money would have been well expended.

We are informed by Richard Leedom, of Moreland, in this county, that three or four years ago, a single grain of oats in his potatoe patch, threw up 30 stalks, which yielded 5,208 grains—or rather skeletons of grains, or grain cells. None of the grains matured, if indeed any of them formed more than the bare husk. The stalks and heads turned an unhealthy, whitish, yellow colour; all the strength of the plant appearing to be exhausted previously to the formation of the grain.

☞ SHORT ADVERTISEMENTS,

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line.

Seed and Implement Ware-house.

The subscriber has on hand and for sale, a few pounds of *Dickson's Improved Hybrid Ruta-baga seed;* this turnip is larger, better flavoured, and more productive than the common kinds. Garden, grass, and flower seeds of all kinds, warranted fresh. Also, Straw-cutters of eight different patterns; among which are Hovey's & Conklin's, new and very superior—price from $15 to $25 each. Turnip Drills, $2 50 to $8. Corn-Planters of various patterns. *Horse Rakes*, Cultivators, Churns, Centre-draught Ploughs, from $4 50 to $13 each. Side-hill, Subsoil, Double-mould, and Shovel Ploughs. New York Ploughs, from $2 to $6 each. Also good Scythes, various makers, 75 cents to $1 each. Scythe Sneeds, from 37½ to 87½ cents; Rakes, Forks, made of cast-steel, a superior article—Grass Hooks, Brier Hooks, Potatoe Hoes, Brier Scythes, Cow Chains, Grain Cradles, very cheap—Garden-lines and Reels, &c., &c., for sale at the lowest prices. Persons in want of implements or seeds, are invited to call at the Seed and Implement Ware-house, No. 176, Market street, between Fifth and Sixth streets, Philadelphia.

D. O. Prouty.

May 15th, 1844.

Imported Durham Cow.

The subscriber having removed from the country, will sell his superior and celebrated *Durham Cow*, Grace Darling. For pedigree and further information, apply to Mr. Aaron Clement, at the Agricultural Society's rooms, South Third street, or to

A. S. Roberts,
No. 76, South Second Street.

PHILADELPHIA SEED STORE,

No. 23 MARKET STREET.

M. S. Powell keeps a constant supply of Clover and other Grass Seeds. Also, Northern Seed Barley; Potatoe Oats, crop 1843, weighing 40 lbs. to the bushel; Seed-corn,—among which are, Cooper's Celebrated Prolific Corn, &c. &c.

☞ GARDEN SEEDS generally.

POUDRETTE—a valuable manure—of the best quality, prepared in Philadelphia, for sale at the office of the Farmers' Cabinet, No. 50, N. Fourth street, or at the manufactory, near the Penitentiary on Coates' street. Present price, $1 75 per barrel, containing four bushels—$5 for three barrels—$15 for ten barrels, or thirty cents a bushel. Orders from a distance, enclosing the cash, with cost of porterage, will be promptly attended to, by carefully delivering the barrels on board of such conveyance as may be designated. Farmers to the South, and in the interior, both of this State and New Jersey, are invited to try the article. As a top-dressing for corn around the hill—for turnips, buckwheat, &c., it has been used to great advantage.

D. K. Minor.

The quantity of rain which fell during the Fourth month, (April,) 1844, was a little more than one inch and a third. ..... 1.354 inches.

Penn. Hospital, 5th mo. 1st.

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THE FARMERS' CABINET,

IS PUBLISHED MONTHLY BY

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It is issued on the fifteenth of every month, in numbers of 32 octavo pages each. The subjects will be illustrated by engravings, when they can be appropriately introduced.

Terms.—One dollar per annum, or five dollars for seven copies—*payable in advance.*

All subscriptions must commence at the *beginning* of a volume. Having lately struck off a new edition of one or two of the former numbers, which had become exhausted, we are now able to supply, to a limited extent, any of the back volumes. They may be had at one dollar each, in numbers, or one dollar twenty-five cents half-bound and lettered.

For five dollars paid in advance, a *complete set* of the work will be furnished in numbers, including the eighth volume. The whole can thus readily be forwarded by mail. For twenty-five cents additional, per volume, the work may be obtained neatly *half-bound and lettered.* Copies returned to the office of publication, will also be bound upon the same terms.

By the decision of the Post Master General, the "Cabinet," is subject only to newspaper postage: that is, one cent on each number within the state, or within one hundred miles of the place of publication out of the state,—and one cent and a half to any other part of the United States—and Post Masters are at liberty to receive subscriptions, and forward them to the Publisher under their frank—thus affording an opportunity to all who wish it, to order the work, and pay for it without expense of postage.

Joseph Rakestraw, Printer.